AMERICAN BEE JOURNAL

DECEMBER, 1917

Special Subscription Offers

OF THE

American Bee Journal

IN COMBINATION WITH BEE BOOKS AND MAGAZINES

In order to give subscribers a chance to get a good Bee Book and effect a saving at the same time, we are giving below our special offers on such combinations.

Anyone desiring description and summary of different Bee Books should ask for our book catalog. It is sent free.

The Most Popular BEE BOOKS

	Book alone postpaid	A. B. J. 1 yr. and Book postpaid
Bee Primer	$ .15	$1.00
First Lessons in Beekeeping	1.00	1.75
Thousand Answers to Beekeeping Questions (Miller)	1.25	1.75
Langstroth on the Honey Bee—Revised	1.50	2.00
Langstroth—Reprint of Original Edition	1.00	1.75
Doolittle—Scientific Queen Rearing	.50	1.25
A Year's Study in the Out Apiary (Doolittle)	.50	1.25
Productive Beekeeping (Pellett)	1.75	2.50
Fifty Years Among the Bees (Dr. Miller)	1.00	1.75
Beekeeping (Phillips)	2.00	2.50
A. B. C. and X. Y. Z. of Bee Culture (Root)	2.50	3.00
How to Keep Bees (Comstock)	1.00	1.75

Canadian Postage on Combinations, 15c extra; Foreign, 25c.

Magazines in Combination

AMERICAN BEE JOURNAL One Year—

With Fruit Grower	$1.25
With Green's Fruit Grower	1.25
With American Poultry Advocate	1.25
With Poultry Success	1.25
With Farm Journal (5 years)	1.50
With Successful Farming	1.25
With Farm and Fireside	1.25
With Ladies' Home Journal	2.50
With Little Folks	1.85
With American Boy	2.00
With Ohio Farmer	1.25
With Country Gentleman	**2.00**
With Youth's Companion	**2.75**

Canadian and Foreign Postage Extra.

OTHER BEE BOOKS IN COMBINATION

	Book alone postpaid	A. B. J. 1 yr. and Book postpaid
Advanced Bee Culture (Hutchinson)	$1.00	$1.75
Life of the Bee (Maeterlinck)	1.50	2.25
Manual of the Apiary (Cook)	1.20	2.00
Quinby's New Beekeeping	1.00	1.75
Townsend's Bee Book	.50	1.25
Southern Bee Culture (Wilder)	.50	1.25
Lore of the Honey Bee (Edwards)	2.00	2.75
Bee People (Morley)	1.50	2.25
Bee Master of Warrilow	.60	1.50
Queenie	.75	1.50
Alexander's Practical Writings	.50	1.25
Biggle Bee Book	.50	1.35
British Beekeepers' Guide	1.00	1.75
The Honey Bee (Cowan)	1.00	1.75
Irish Bee Guide	1.10	1.85
Waxcraft (Cowan)	1.00	1.75
Modern Bee Farm	2.00	2.75

Canadian Postage on all Combinations, 15c; Foreign, 25c.

Bee Paper Combinations

American Bee Journal, one year, $1 — Gleanings in Bee Culture, one year, $1 — **Both $1.50** Canadian postage 40c extra

American Bee Journal, one year, $1 — Domestic Beekeeper, one year, $1 (Formerly Beekeepers' Review) — **Both $1.50** Canadian postage 20c extra

All Three Bee Papers as above for $2.25

Canadian Postage, 65c.

Send us a list of books and magazines you want. We will quote our best prices.

Our regular subscription prices on American Bee Journal are, 1 year, $1; 2 years, $1.75; 3 years, $2.50; 5 years, $4.

SEND ALL ORDERS DIRECT TO

AMERICAN BEE JOURNAL, Hamilton, Ill.

HOW ABOUT NEXT YEAR?

The season of 1917, just closed, has been a most unusual one. Beekeepers who did not fortify themselves early in the season by securing their hives, sections and other goods and having their equipment ready for the bees, found that when the honey season was upon them that they were up against the following conditions:

EVERYBODY WANTED BEE GOODS—DEALERS HAD DEPLETED STOCKS ON ACCOUNT OF THE UNUSUAL DEMAND—MANUFACTURERS WERE SEVERAL WEEKS BEHIND ON ORDERS—THEIR FACTORIES WERE WORKING OVER-TIME, SOME BEEKEEPERS WERE DELAYED, SOME DISAPPOINTED, SOME GOT THEIR GOODS WHEN IT WAS TOO LATE.

Now, Mr. Beekeeper, what are you going to do about Next Season?

Prospects are favorable for a big demand for bee supplies next year. Profit by the experience of the past. Prepare! Order your goods this fall. Write us or our dealer nearest you for a list of new prices.

If you are not on our mailing list, write us at once and we will send you a catalog containing name of the distributer nearest you, and in this way you will also be sure to receive a copy of our new 1918 catalog when it is issued, which will be in January, as usual.

LEWIS

Hives and Sections and all other goods are made of the best material and are scientifically manufactured

OUR GUARANTEE

We absolutely guarantee that our goods are perfectly manufactured of the best material for the purpose. On examination, if our goods are not as represented, we do not ask you to keep them. Return same at our expense and we will refund your money, including any transportation charges you have paid. If you purchase our goods from one of our distributers, the same guarantee holds good, as we stand back of them.

REMEMBER, IN HARMONY WITH THE GENERAL CALL MADE BY THE PRESIDENT, ALL BEEKEEPERS NOW OWE IT TO THE NATION, IN ORDER THAT BEEKEEPING MAY FULFILL ITS HIGHEST OBLIGATION, TO REDOUBLE THEIR EFFORTS TO INCREASE THE IMPORTANCE OF BEEKEEPING AS AN AGRICULTURAL INDUSTRY WHICH CONSERVES A VALUABLE NATIONAL RESOURCE AND WHICH PRODUCES A NON-PERISHABLE, CONCENTRATED, WHOLESOME FOOD WHICH PLAYS A VERY IMPORTANT PART IN THE ENDURANCE OF ANY NATION.

ORDER YOUR BEE SUPPLIES EARLY AND ORDER STANDARD GOODS IN ORDER TO SAVE TIME AND ENABLE MANUFACTURING PLANTS TO ACCOMPLISH THE MOST IN THE SHORTEST POSSIBLE TIME.

G. B. LEWIS COMPANY

WATERTOWN, WISCONSIN, U. S. A.

Send for catalog giving name of distributer nearest you

AMERICAN BEE JOURNAL

Vol. LVII—No. 12 HAMILTON, ILL., DECEMBER, 1917 MONTHLY, $1 A YEAR

THE SAGES OF CALIFORNIA

Notes on the Plants Which Furnish Most of the Honey on the Pacific Coast

By Frank C. Pellett

WHEN sage is mentioned, we of the east are likely to think of the common garden sage, *Salvia officinalis,* which for at least three centuries has been cultivated for its aromatic leaves. Of this there are several varieties, some with broad and some with narrow leaves. The garden sages are good honey plants, but seldom sufficiently abundant to amount to much as honey producers. The honey from the garden sage is said to be nice and white like that from catnip or motherwort.

The name sage is derived from its supposed power to make people wise by strengthening the memory, for which it was used in ancient medicine.

There are upwards of five hundred species of sages, widely distributed in the temperate and warmer regions of both hemispheres. Probably most of the species yield honey, although but few are known to be important. Rayment mentions the wild sage, *Salvia verbenaca,* as introduced into Australia from Europe, but now yielding honey during the dry months of the year. (Money in Bees in Australasia). There are more than two hundred species known to occur in Mexico and Central America and it is very probable that when beekeeping is developed on a commercial scale in those countries that the sages will be found to be very important honey plants.

Since practically all sage honey that goes to market in America is from California, the sages from that State are of first importance. Sage is known to occur in other western States and the question is sometimes asked whether any honey is secured from this source elsewhere. In answer to this question Mr. J. E. Miller, of Caldwell, Idaho, writes, in Gleanings in Bee Culture (Sept. 15, 1908), as follows:

"My neighbor, Mr. Garfield, experimented with one colony of bees by taking it eight or nine miles away from alfalfa or other cultivated fields, and setting it among the white sage. He went out to look after it every week and took fresh water. We do not know the exact amount of honey the bees gathered, but they did fully as well as those left at home near the alfalfa. The honey was of that water white color peculiar to California sage honey. Mr. Garfield sent samples to California and it was pronounced A 1 white sage; so we are convinced that the white sage of South Idaho does yield just as much and just as good honey as that of any other State."

THE HYBRID SAGE OF CALIFORNIA.
(Photograph by Homer Mathewson.)

It is probable that one or more species of sage occur in nearly every State, but they increase in abundance westward. In the arid country west of the Missouri river they become sufficiently common so that an appreciable amount of honey might be expected in many localities. It is quite likely that sage honey in small amounts is mixed with honey from other sources, and so not detected, in many localities outside of California. The fact remains, nevertheless, that sage, as an important source of surplus, is not reported outside of that State.

The quality of sage honey is of the best, being water white in color, of a heavy body and delightful flavor. Since it does not granulate, it is much sought for by bottlers in the east, who blend it with clover or alfalfa. There are many who regard sage honey as the finest in the market. In this connection A. I. Root in an early edition of his A B C of Bee Culture, wrote:

"I well remember the first taste I had of the mountain sage honey. Mr. Langstroth was visiting me at the time, and his exclamations were much like my own, only that he declared that it was almost identical in flavor with the famed honey of Hymettus, of which we had received a sample some years ago. Well, this honey of Hymettus, which has been celebrated both in prose and poetry for ages past, was gathered from the mountain thyme, and the botany tells us that thyme and sage are closely related."

Although there are several species of sage which yield honey in California the quality does not differ materially, as far as can be ascertained from printed reports. It is all described as "water-white, unexcelled flavor, of heavy body and does not granulate."

Prof. A. J. Cook wrote to the

American Bee Journal (June 21, 1906) concerning the sage as follows:

"Chief among the honey-bearing mints are the incomparable sages of California. These are not excelled even by the clovers or linden. The honey is white, delicate of flavor, and must ever rank among the best in appearance and quality. Not only this, but the quantity is often phenomenal. This comes from the fact that flowers are borne in long racemes or compact heads, and as the separated flowerets do not bloom all at once, but in succession, the plants are in bloom for weeks. The sages, then, are marvelous honey producers, first, because of the generous secretions of each floweret, and second, because of the immense number of these flowerets and the long period of bloom."

At another time Mr. Cook wrote that the honey from all the sages is so much alike that it would be indistinguishable. (American Bee Journal, Aug. 3, 1905).

Richter, in his Honey Plants of California, speaks of the white sage, *Salvia apiana,* Jep., as "very common on the dry plains toward the foothills, and ascending these to about 3,000 feet."

Writing in Gleanings in Bee Culture, P. C. Chadwick describes a journey which he made in the San Bernardino mountains with the intent to find out the highest elevation at which bloom could be found in sufficient quantities to support bees. Up to an elevation of 7,000 feet he found white sage in abundance, and all alive with bees. (Western Honey Bee, Sept., 1914.) Richter gives its range as common from Santa Barbara county southward, blooming from April to July. "As abundant as the black sage, but not as good a yielder, nor has the honey as fine a flavor."

Black sage, *Salvia mellifera* Greene, also known as ball sage, or button sage, is generally credited as being the principal source of sage honey, most of the honey which goes to market under name of white sage, being produced from this plant. Quite probably it is the best honey plant on the Pacific Coast. Richter says of it: "As a general rule every fifth year an excellent crop is obtained, and every third or fourth year a total failure is experienced, the flow being dependent upon winter rains, with warm spring quite free from cold winds and fog. When in bloom a certain amount of warm weather is required before it produces nectar."

The range of black sage is given as "Mt. Diablo, Los Trampas Ridge, near Hayward, San Mateo county, Glenwood and Brieta, southward to Southern California. April-May." Jepson. "Coast ranges and ascending to 5,000 feet in the San Bernardino mountains. March to June. San Diego County, February to May."

Mr. J. E. Pleasants, of Orange, California, writing in American Bee Journal (June, 1914), describes the peculiarities of the sages, as follows:

"The black sage is king of them all. When climatic conditions are favorable I think black sage can be relied upon to produce more 'gilt edge' than any other plant in the West, and for body and flavor it is hard to excel. It blooms for weeks. The blossom is small and inconspicuous, but what a flow of nectar it can yield.

"The white sage is a much prettier plant. Its soft, grey leaves and tall blossom spikes make it quite showy, while its pleasing aromatic odor breathes the very essence of wild perfumes. But this queenly plant is much more inconstant than its plainer sister. Some years it produces a good harvest, others very light.

"The silver, or purple sage, which has silvery leaves and brilliant light purple blossoms, is usually a good producer, but is much restricted as to locality."

The purple sage *Salvia leucophylla,* also called white-leaved sage, or silver sage, is reported as a good yielder, although not as abundant as either of the foregoing species. The Richter catalogue gives the range as occasional in the foothills of the Santa Monica and San Fernando mountains, April to July, and from San Luis Obispo to San Diego counties and not extending inland beyond the coast ranges.

Salvia amabilis, loving sage, is reported from Santa Barbara March-June, but probably not important.

Salvia carduacea, thistle or annual sage. "Inner coast range valleys, and throughout the San Joaquin valley, Southern California, June." Jepson. "A well-known honey plant." Richter.

Salvia columbariae, annual sage. "Throughout the coast ranges, Sierra Nevada and Southern California, on hill and mountain slopes." Jepson.

Salvia sonomensis, Greene, creeping sage. "Montana species at middle altitudes. Ramona mountains west of Calistoga, Mt. Shasta, Calaveras and Mariposa counties, San Diego County. May." Jepson. "Also June, Sierra foothills from Sierra to Inyo counties, main source of honey in many districts." Richter

Concerning the regularity of yield from sage, Mr. P. C. Chadwick wrote in Gleanings in Bee Culture (Jan. 1, 1911), as follows:

"South of the Tehachapi Mountains lies practically the entire sage of our State, notwithstanding eastern people and many of our westerners term every form of small growth on the vast slopes of the Rocky Mountains 'sage brush.' There is no denying that the button (or black) sage is, of all honey plants, our chief surplus producer. Neither does it average a crop more often than every other year, regardless of rainfall; for it seems necessary, from its semi-arid nature, to be dried out or rested before it comes back to its prime yielding condition. I have seen it return

BLACK SAGE, THE FINEST HONEY PLANT ON THE PACIFIC COAST.
(Photograph by Homer Mathewson.)

some surplus for three consecutive seasons; but the middle season was not what could be considered a crop, even after a sufficient rainfall."

Again he writes to the same journal to the effect that the sage ranges soon give place to other crops (Dec. 15, 1911):

"If I should predict that thirty years hence the sage ranges of California would be almost a thing of the past there would doubtless be criticism of my views; but I firmly believe that we shall face such a condition, for emigration to this part of California is increasing rapidly Hillsides are yielding to the plow, where twenty years ago it would have been thought almost impossible."

Some writers give two hundred pounds per colony as a fair average in a good sage year, so that with even one good year in three it comes well up with the yield of many plants more constant in their production.

It is through the kindness of Mr. Homer Mathewson, of Kentucky, that we are able to present to our readers the pictures of the sages in connection with this article. One picture is of a hybrid sage. Crossing of the various species is said not to be uncommon.

WHITE SAGE, AN ABUNDANT PLANT, BUT UNCERTAIN IN ITS YIELD.
(Photograph by Homer Mathewson.)

What is in a Name?

By A. B.

WHILE hunting for the name of a town in a "shippers'" guide I came across the name "Beehive," Alabama. My curiosity was aroused to ascertain how many towns or railroad stations bore names relating to bees or their products in the United States.

There are just 73 places with such names, as follows:

11 "Bee," in Alabama, Arkansas, Georgia, Minnesota, Nebraska, Ohio, Oklahoma, Tennessee, Virginia, Washington and West Virginia.

1 "Bee Bayou," in Louisiana.
1 "Bee Branch," in Arkansas.
1 "Bee Camp," in Indiana.
1 "Bee Cave," in Texas.
3 "Bee Creek," in Illinois, Missouri and Texas.
1 "Bee Fork," in Missouri.
1 "Bee Grove," in Indiana.
1 "Beegum," in California.
4 "Beehive," in Alabama, Colorado, Georgia and Montana.
1 "Beehive Crossing," in New York.
1 "Bee House," in Texas.
1 "Bee Hunter," in Indiana.
1 "Beelake," in Mississippi.
1 "Bee Lick," in Kentucky.
1 "Bee Log," in North Carolina.
1 "Bee Ridge," in Florida.
1 "Bee Spring," in Kentucky.
1 "Beetown," in Wisconsin.
2 "Bee Tree," in Maryland and North Carolina.
2 "Beeville," in Tennessee and Texas.
1 "Drone," in Georgia.
2 "Honey," in North Carolina and Washington.
1 "Honey Bee," in Kentucky.
1 "Honey Bend," in Illinois.
2 "Honey Brook," in Pennsylvania.
1 "Honey Camp," in Virginia.
7 "Honey Creek," in Alabama, Georgia, Illinois, Indiana, Iowa, Pennsylvania and Wisconsin.
2 "Honeycutt," in North Carolina and Tennessee.
1 "Honey Ford," in North Dakota.
3 "Honey Grove," in Kentucky, Pennsylvania and Texas.
1 "Honeyhill," in South Carolina.
3 "Honey Island," in Louisiana, Mississippi and Texas.
1 "Honey Landing," in Alabama.
1 "Honey Pod," in North Carolina.
1 "Honeymans," in Oregon.
1 "Honeymans Spur," in Oregon.
1 "Honey Pot," in Pennsylvania.
1 "Honey Springs," in Texas.
2 "Honeyville," in Utah and Virginia.
2 "Wax," in Georgia and Kentucky.

Most of these names were very probably given to the locations which bear them because of the finding of bees in the vicinity. The honeybee is said to have settled ahead of the white man throughout this country, since the Indians called her "the white man's fly." Over half of the names are located in the Dixie region or Southern States, showing that nature spread the bees more promptly and lavishly in the warm countries.

The evidence that, in most cases, names were given after the things found, unless they were given after the original homes of the settlers, is very apparent in the Indian names of localities, according to the tribes that occupied them. No. Piscataquis, except in Maine; no Mishicott outside of Wisconsin; Petoskey indicates only Michigan; Minnetonka is found nowhere but in Minnesota; no Bayou Goula out of Louisiana; no Snohomish except in Washington; no Tamalpais out of California; no Apalachicola except in Florida.

There are a number of Londons, a number of small Paris, Berlins, Viennas, 33 Washingtons. So both great men and great cities have been patrons of our new cities.

Names of bees and of their products exist but little in other countries as names of places or cities. We find one "Beeton" in Canada (given by the famous D. A. Jones), one "Abejar" in Spain, one "Honeybourne" in England. The long list of names found in the United States evidently indicates the thrift of bees in this country.

Bibliography----Sacbrood

THIS is the title of Bulletin No. 431 of the United States Department of Agriculture, mentioned on page 155 of our May issue. Dr. White is the scientist who has the credit of at last placing the description of the two diseases named foulbrood on a positive scientific basis. He isolated "bacillus larvae" and cultivated it so as to prove that the same disease could be reproduced by its spores. He did similar work on "bacillus pluton." These two diseases are popularly named "American foulbrood" and "European foulbrood."

Dr. White now gives us a similar basis in regard to what has been called "pickled brood," under the name selected by him of "sacbrood." He gave this name because in that disease the body wall of the larva which has died of the disease toughens, permitting the easy removal of the remains intact from the cell, as in a sack. Dr. White avers that the name "pickled brood" is incorrect in speaking of this disease.

The brood that dies of sacbrood, with but few exceptions, dies in capped cells, when the larva is stretched in the cell, preceding the change to pupa. It turns slightly yellow, which in a few days changes to brown. If the dead larva is not removed, its surface becomes wrinkled by evaporation and it finally forms a scale. This is never at any time adherent to the cell wall.

In the first stages of the disease, if larvæ are crushed, suspended in syrup and fed to healthy bees, a large amount of the sacbrood is readily produced. But as the larva dries, its capacity for infection lessens, until in the last stages it shows no evidence of being infectious, when fed to bees.

The dried scales of sacbrood in the last stage have often been compared in appearance to the end of a Chinaman's shoe. This description, we believe, was first given by N. E. France, the well-known Wisconsin bee inspector, who called it as others did, "pickled brood."

PURPLE SAGE, EXCELLENT HONEY PLANT OF RESTRICTED RANGE.
(Photograph by Homer Mathewson.)

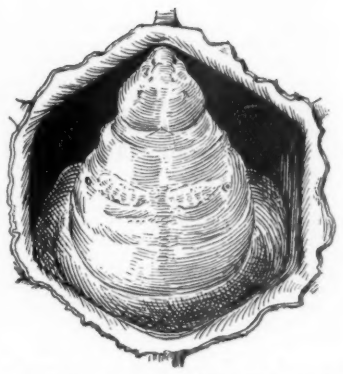


FIG. 1.—End view of Healthy Worker Larva in normal position in cell. Cap torn and turned aside with forceps. Enlarged about 8 diameters. (Original.)

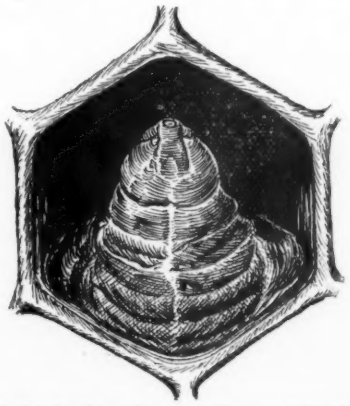


FIG. 2.—Looking into a cell containing larva dead of sacbrood. (Original.)

The point of heat at which sacbrood is neutralized is of importance and interest to beekeepers. Dr. White found the following degrees of heating to destroy the virus of the disease:

When suspended in water, 136 degrees or over.

When suspended in glycerine, 163 degrees or over.

When suspended in honey, 158 degrees or over.

In a drying room, time 22 days, sacbrood also lost its virus.

When kept in honey, it produced no disease after 31 days. So it is safe to say that sacbrood loses its danger after a month.

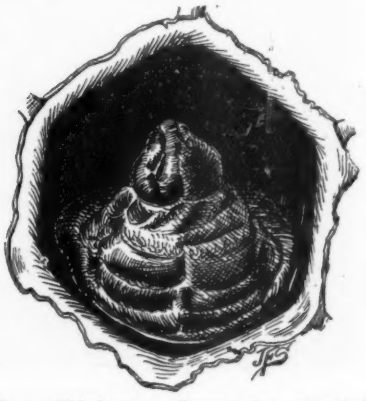


FIG. 3.—Third stage. Dorsal view of anterior third of larva dead of sacbrood. (Original.)

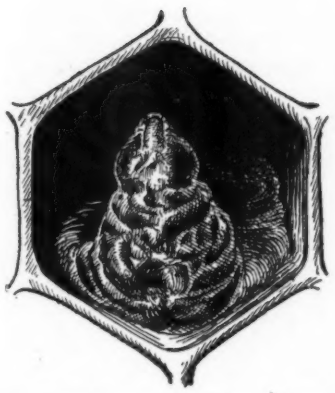


FIG. 4.—Fourth stage. Remains of larva dead of sacbrood. (Original.)

Dr. White also gives its resistance to sunlight, in fermentation in sugar, etc.

The main difference in appearance between sacbrood and European foulbrood is to be found in the earlier death of the larva in the latter disease, for it usually dies while coiled in the cell, before the endwise position is assumed. The saclike appearance is also absent.

Dr. White also takes notice of the well-known fact that sacbrood is more common in the spring months than at any other time. Colonies rarely die of it, but they often become weakened by it. He does not consider the combs of diseased colonies as infectious.

No remedy has yet been given to cure this disease, which usually runs itself out. The advice given by N. E. France is probably the best course to pursue. Strengthen the colony and give it plenty of honey near the brood. If the queen is old, supersede her.

The above named bulletin, which contains 56 pages, is worth perusing, even if some of its scientific terms are "Greek" to the average reader. A valuable amount of information, intelligible to everyone, is stored in it. It deserves a place in every beekeeper's library. It may be secured from the Department of Agriculture in the usual way.

A Convenient Package Filler

MOST of the shippers who deal in combless packages of bees fill them by means of an ordinary tin funnel set directly into the opening of the package. We are showing herewith two pictures of a package filler quite different from those in common use. This filler is used by the Penn Company and is supported by two rods which are pressed into the ground to hold it solid. There is a small platform on which the packages to be filled are placed. The big funnel makes rapid work easy since it catches all the bees that are jarred from a frame held over it and there is no danger of a slight jar overturning the package partly filled with bees.

PACKAGE FILLER USED BY THE PENN COMPANY.

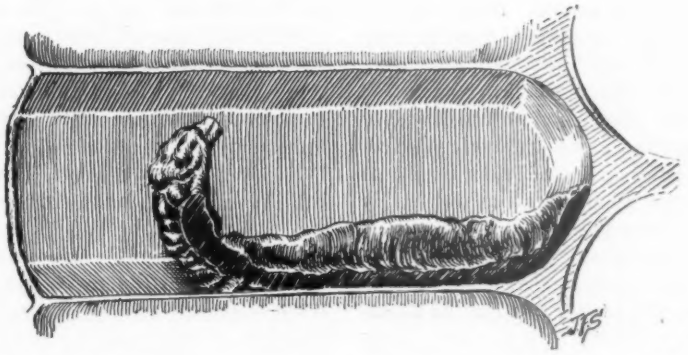


FIG. 5.—Scale, or larval remains in position in cell, cut lengthwise, lateral view. (Original.)

The Wonderful Story of a Queen Bee

By Bro. Romain

TWO years ago, in July, an ex-student of our college asked me for a hive of bees. To please him, I agreed to divide one hive of mine, giving him the queen and three frames of brood. Naturally the "bereaved" bees started queen-cells and in due time a new queen emerged. Every day, about noon, I used to open the hive to watch the progress of her majesty. The fifth day, at 12 o'clock, the queen was found "missing"—out, I thought, on her mating flight; but at 1 o'clock no queen yet; at 2, no queen, either; rather bad—and bees giving signs of unmistakable anxiety. I concluded that the queen had been lost.

PENN PACKAGE FILLER SHOWING HOW PACKAGE IS PLACED.

That same day, at 3 o'clock, a friend beekeeper, Mr. G. Rozario, came from his home situated in the center of a populous quarter of Shanghai, about one-third of a mile distant, and told me the strange story that he had just seen a new queen, from somewhere, newly fecundated, gladly received in one of his hives (he had only two). No doubt this was my kidnaped queen.

Mr. Rozario made no difficulty to return the found queen. I went to his house, put the strayed queen in a matchbox and soon re-installed her in her deserted home. I put her on the top of the frames. Then what followed no words can adequately describe. The queen was met with a rush of bees upwards, giving extraordinary demonstrations of joy in touching the queen. They went below, the queen with them, as if simply returning from her normal flight.

Now, can some expert tell, first, why that queen deserted her home; second, how could she be persuaded to enter a foreign hive and be welcomed there, even by the old queen; third, who was guilty of abduction?

Anyhow, is not that fact throwing some light on many cases where beemen are puzzled by the apparition of bees different from those of the hive?

To end the story of that queen I must add that last spring, in March, finding the colony too weak, I united it with a stronger one, without anything between; but the "under bees" got onto the trick and, roused to fury, massacred everyone of the intruders during the night.

Shanghai, China.

AMERICAN BEE JOURNAL

PUBLISHED MONTHLY AT
First Nat'l Bank Bldg., Hamilton, Ill.

Entered as second-class matter at the Hamilton, Illinois, Postoffice.

C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.
FRANK C. PELLETT, Staff Correspondent.

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is $1.00 per year in the United States of America and Mexico; 3 years, $2.50; 5 years, $4.00; in Canada, 15c extra, and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER LABEL DATE indicates the end of the month to which subscription is paid. For instance, "dec17" on your label shows that it is paid to the end of December, 1917.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your address, which show that the money has been received and credited. In case of errors, please write us.

THE EDITOR'S VIEWPOINT

Honey Prices

Although honey is now selling at higher prices than for several years past, it has not yet reached the high figures of former years. In 1873 Harbison and Clark shipped a carload of honey from California to Chicago. This was probably the first car of honey to be shipped overland from the coast, and it sold for 27 cents per pound, wholesale. This is somewhat above the highest prices for which comb honey has sold in any American market of late.

There are indications that honey will not again drop to the low levels of the recent past. The slump in prices which honey has suffered during the past twenty years is largely the result of the general use of glucose and other cheap substitutes, which have been so widely advertised. The public is turning again to honey at a time when prices rule high and will continue to demand it in preference to inferior substitutes.

A Careful and Thrifty Beekeeper

Success in any line is achieved only by perseverance and activity. But this is especially true of the honey producer. At first sight beekeeping would seem only a summer work. But how many things there are which the thrifty beekeeper can do in the dull season. Here are a few thoughts gleaned from a private letter written last March, which show how our old friend, G. C. Greiner, occupies a part of his spare time before the season opens and after the honey has been disposed of:

"'In the last week or two I have been steadily at work in the honey-house, preparing things for the coming season. My first job was the cleaning up of the extracting supers. Every comb, mainly the sides of the top-bars and the underside of the tenons, is thoroughly scraped and the scrapings made into wax. From two days' scrapings I have made about 10 pounds of fine quality wax. The rabbets of the outsides and their upper and lower edges are also cleaned from all propolis accumulations, so that everything works as readily as new work. All section supers are also looked over, separators, especially, are cleaned up, so that no crowding is necessary to leave room for super springs."

Is it astonishing that as careful a man as this should succeed?

Selling Your Honey

In a period of high prices such as we are now experiencing there is danger that the home market be overlooked and all honey sent in to the big markets to realize quickly at high prices.

Letters have come in from subscribers stating that all their honey went to the big buyers. "My home trade could not possibly pay the price offered abroad."

This is all well and good as long as the price continues to rule high and the demand is good from the larger markets. But we should look a little farther ahead to the time when we may again be offered a lower price for honey, a lower price than we are willing to take.

Then there will be a realization that the home market, sadly neglected, has again accepted some substitute for honey. Again the small producer will vainly endeavor to make his people realize the "food value" of honey and again he will wonder why people will eat such stuff as corn syrups when they can get honey right at their door.

If we care to realize the benefits of recent campaigns with "Eat Honey" stickers, with honey food value booklets, with flashy labels and with other local advertising, we must maintain the campaign even in the face of high prices for our product, and, more than all, we must be in a position to furnish our customers, at least on request, with honey.

Just as sure as we do not, the advertising value of past years' work will be destroyed and the work will have to be done over.

In time of high prices prepare yourself to avoid the lower prices of the future.

Keep your home trade, even though you have to buy honey elsewhere and charge customers an accordingly higher price. They will accept your explanations even though some of them refuse the honey.

Honey Changing the Color of Tea

In one of our exchanges we notice this question, to which its editor is unable to give a satisfactory reply. Neither can we give an explanation if the honey which was guilty of this offense is positively known to be pure. But if the source of the honey is unknown, this would probably prove a base adulteration.

In 1879, when corn syrup, otherwise called commercial glucose, began to appear on a large scale among edible products, we inquired of a chemist as to the easiest means of detecting it. His reply was: "Use it to sweeten tea or coffee and you will find it to turn the liquid to a darker color. Glucose is made by boiling starch with sulphuric acid. The free acid contained in the liquid is afterwards removed by the use of lime. But some free sulphuric acid usually remains in the syrup and it is this which acts upon the tannin of the tea or of the coffee and darkens it."

Of late years, corn syrup is made with more care and contains little if any free sulphuric acid. But it is probable that, in the case cited, the adulteration was of low grade syrup and the acid in it acted upon the tannin contained in the tea, helping to blacken it.

Dark grades of honey would, of course, darken coffee or tea, in the measure of their shade of color. Such mechanical action could be readily expected.

The fact that some grades of commercial glucose still contain some free sulphuric acid and quite a little sulphate of lime in suspense ought to lessen the tendency of our housekeepers to use such preparations, especially if they can secure pure honey from the apiary.

Obituary

O. O. POPPLETON

Colonel Oscar Ogden Poppleton's death occurred at the National Soldiers' Sanitarium in Hot Springs, South Dakota, on October 4, 1917.

Colonel Poppleton was in failing health when he left Florida last spring, but hoped that he would recover while with his daughter in New Hampton, Iowa. Finding no improvement, he went to the Soldiers' Sanitarium in hopes that the rest would cure him. Still finding no relief, he telegraphed his son-in-law to come for him that he might pass his last days with his daughter, but the end came before he could undertake the trip.

O. O. Poppleton was born in Green Springs, Ohio, June 28, 1843. At the age of thirteen he removed to Iowa, and when eighteen entered the civil war as a private. He soon rose to first lieutenant and served during the entire war as an officer. After the war he was placed for two years by the government in charge of establishing - National Cemeteries throughout the country.

In 1886 he removed from Iowa to Florida and engaged in beekeeping there, being first located at Hawk's Park and later at Stuart, Florida.

It was in 1869 that Mr. Poppleton first heard of a bee paper and thus learned that there was a better way to keep bees than in box hives. He began at once to transfer and became an up-to-date beekeeper.

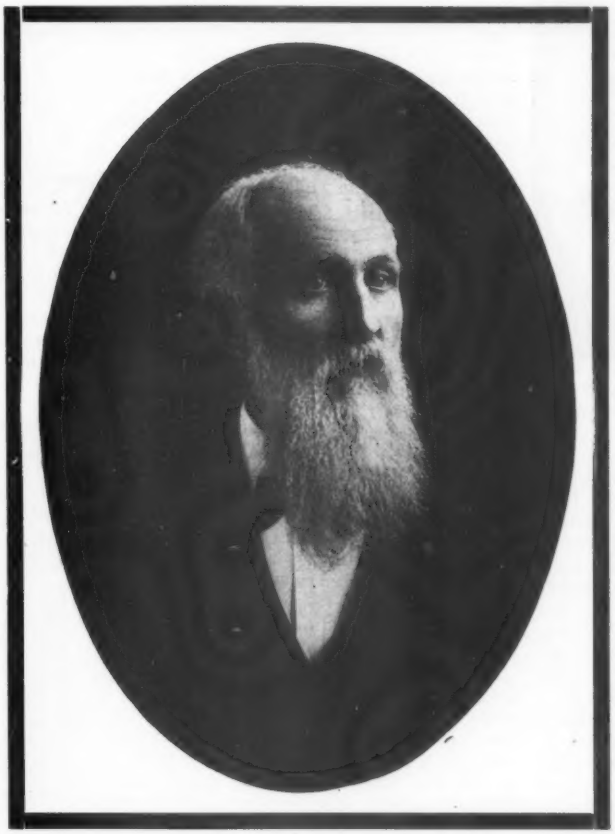
In 1875 he realized the advantages of chaff as packing for northern latitudes and from then on packed all colonies thus, to avoid winter losses, until his removal south.

About 1890 he had charge for two years of the large Dussacq apiary in Cuba, containing from 350 to 500 colonies. During one year the apiary of 398 colonies yielded him 52,000 pounds, or about 130 pounds to the colony. This was his largest crop, though his average per colony has many times exceeded this.

For four years Mr Poppleton practiced migratory beekeeping, moving from one location in Florida to another about 150 miles away, so as to take advantage of the different flora. His moves were made with a launch. He was successful, his per colony averages for the four years being respectively 273, 291, 82 and 300 pounds.

In later years he was obliged to give up extensive beekeeping on account of ill health.

Colonel Poppleton was a deep-thinking beekeeper. He studied out his problems and laid his plans accordingly. He was America's foremost advocate of the long idea hives about which so much has been written in the bee journals in past years, and his uniform success shows that this type of hive was admirably suited to his methods.



The late O. O. POPPLETON,
From a Photograph taken in 1901.

In his different locations Mr. Poppleton was often bothered with bee paralysis among his apiaries. It was he who first advised the use of powdered sulphur in checking the depopulation of colonies from this disease. He was also the inventor of the American sun wax extractor.

Mr. Poppleton was married twice, both of his wives preceding him in death. He is survived by two daughters, Mrs. Pearl Babcock, of New Hampton, Ia., and Mrs. G. A. Hatch, of Shelton, Wash.; and a half-brother, F. W. George, of Aberdeen, S. D.

The older beekeepers will regret the death of this pioneer, whose writings appeared so often and were so instructive in the journals of the earlier days of movable-frame beekeeping.

Mr. Poppleton's experiences of migratory beekeeping are very interesting to read and show the careful preparations which he made to insure success.

As one of the old school, of the old army, he will be missed; but the record of his achievements lives after him as an example to future generations.

Beekeeping for the Crippled Soldiers

A soldier's home for the maimed and crippled soldiers of the present war has been established by the Italian Government at Palermo, Sicily. Among other useful occupations for these men an apiary has been established, a partial photograph of which is given in the October number of L'Apicoltore

Why could not small apiaries be established in some of our Soldiers' Homes? The occupation is not strenuous, and some profit may be derived from it, besides the supplying of such an establishment with the honey that may be required for the use of its inmates.

Kansas Meeting

The 14th annual meeting of the Kansas State Beekeepers' Association will be held in the Chamber of Commerce, Topeka, January 7 and 8, 1918.

A splendid program is being prepared and all persons interested in bee culture are urged to attend.

A honey banquet will be served at noon, January 8.

O. A. KEENE,
Sec'y.

Death of L. E. Mercer.—We are sorry to report the death of one of the largest of California's beekeepers, L. E. Mercer, which occurred at Ventura on October 21, 1917. Mr. Mercer had for many years been one of California's most prominent beekeepers.

Brood Foundation----Most Ecnomical Weight to Use

By the Editor.

A READER of the American Bee Journal asks what is the most economical weight of foundation to use for brood-combs.

It was at one time thought good economy to use only very narrow strips in the frames, just enough to insure the building of straight combs. Numerous tests, both scientific and practical, have proven that beeswax costs the bees so much in honey that it is advisable to save as much as

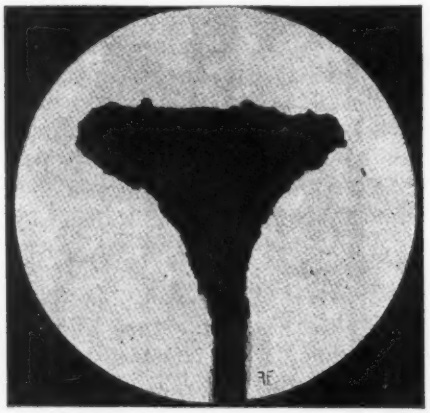


FIG. 1.—The lump at the outer edge of the cell, first stage—longitudinal section enlarged 35 diameters.

possible in this line and use, not only full sheets of foundation in the brood-frames, but a weight of foundation that will, as nearly as practicable, enable the bees to build the full depth of the cells out of it. Although the bees are sometimes so hurried by the honey crop that they fail to make use of all the available wax in the foundation, they usually do lengthen the cells to a great extent out of the foundation. This is readily seen if we take up and examine a comb which is being built out of foundation.

However, in order to ascertain how much wax is required in the foundation to secure the entire depth of the comb from this wax, it was necessary to make careful experiments. The

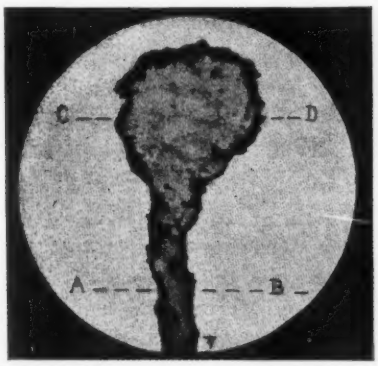


FIG. 2.—Lump on the edge of the cell—second stage—longitudinal section enlarged 35 diameters.

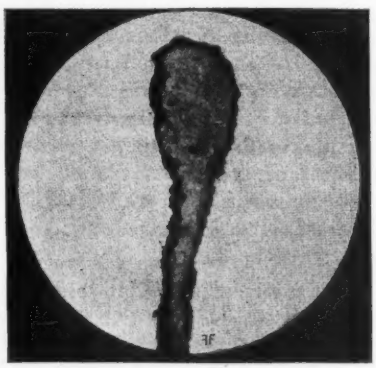


FIG. 3.—Third stage.

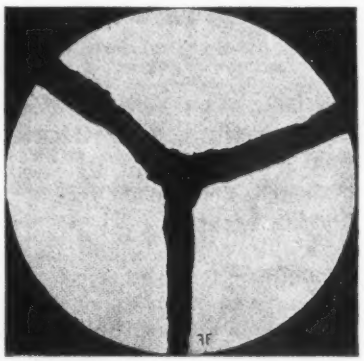


FIG. 4.—Intersection of three cells—section through the thin part of the line A-B in Fig. 2.

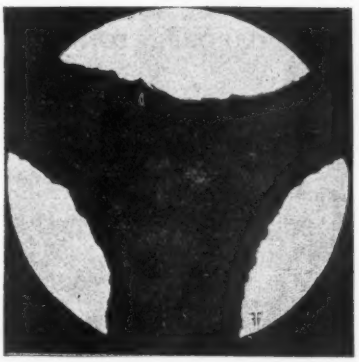


FIG. 5.—Intersection of three cells—section through the middle of the lump on the line C-D in Fig. 2.

Foloppe brothers, of Champosoult, France, undertook it several years ago. These experiments were published in the May, 1911, number of the American Bee Journal. We will supply the answer to the question made above by quoting the most interesting parts of these experiments.

In order to obtain a positive result, Messrs, Foloppe relied on two points, the color of the comb secured and its weight.

The first requirement was a coloring pigment which would stain the foundation permanently, but would not give any odor or flavor objectionable to the bees. It needed, also, to be of a consistency that would not permit it to "run" or soak from the foundation to the new comb produced by the bees. After securing this pigment, sheets of different weights were made of stained wax and given to the bees. The result was that the foundation approximating about 5½ Langstroth sheets to the pound proved the most economical, as it furnished wax enough for the entire comb. Heavier sheets supplied enough for the cappings. Lighter sheets required some new wax of their own production.

Weighing the frames and foundation before the experiment and also afterwards confirmed this, for with the six-sheet foundation, less than one per cent was added to the weight of each frame during the process of stretching the sheets into full combs.

There was, however, a particularity about this test which suggests to us the possibility of securing the same result from a slightly lighter grade of foundation. The sheets used in the test were made on the European foundation press. This instrument makes much less perfect sheets than our American mills. It leaves more beeswax in the base of the foundation. It must be, therefore, more difficult for the bees to draw out the cells. For that reason we believe that a weight of about 6½ to 7 Langstroth sheets to the pound would still secure a good result and permit of all or nearly all the comb being made out of the sheet.

A very interesting remark made by these careful experimenters was the discovery that, in drawing the foundation the bees do not pull it outward perpendicularly to the depth of

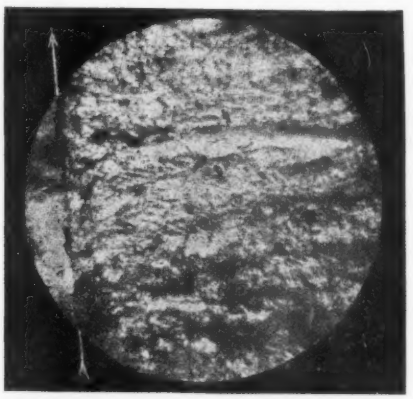


FIG. 6.—Part of wall of a cell showing the lines left by the work of the bees. Those lines are at right angles with the cell-wall indicated by the arrow—enlarged 45 diameters.

the cell, but that on the contrary they do their work in a circular way, manipulating the wax after the method of the potter, who shapes his vase on a turning table. This gives much greater solidity to the work than a straight pull would give. The direction of the bees' work in stretching the cells may be readily noticed in the highly magnified portion of cell-wall shown in figure 6, the arrow imbedded in this cell-wall indicating the direction of the cell's depth. The ridges, which show plainly, display the work of the bees and its direction. As they thin out the cell base or sides, they keep pushing before them a part of the plastic wax and carry it out in a ridge or lump which

keeps getting smaller until the entire amount of wax is used up. A small ridge, or cell edge, however, is always retained, as is well known to those who are in the habit of handling combs. This ridge strengthens the combs, the thinness of whose walls would render them liable to be readily broken by the bees traveling over them.

Those who consider the initial cost of foundation as partly an obstacle to its use in a profitable way should bear in mind that the investment in this material is a permanent investment, if only they will see to it that it is not destroyed by moths or mice. If you use 2 or 3 pounds of foundation in each hive, it is there to stay, and when the combs which are built of it become too thick or too dirty to use, the beeswax in it is still there, with probably some addition by the bees, and about two-thirds of the initial cost may be saved for future combs.

A Use for Old Tin Cans

By A. F. Bonney.

IN the United States millions of tin cans of from four ounces to a quart capacity are utterly lost annually, and while this waste cannot be avoided, I conceived the idea that I could save what I emptied in the kitchen.

I have to make several cement hive stands this spring, and as I have neither boulders nor broken rock to save cement, I decided to work as follows: Make a mould the size of the stand, and an inch deeper than the largest can I have to use. The frame is put in place, and an inch of cement, mixed three to one, poured in. Let this set a little, then push into it the empty cans, open end down. When the cement in the frame is stiff enough so that the cans will stay down, fill the mould with cement and leave it to set.

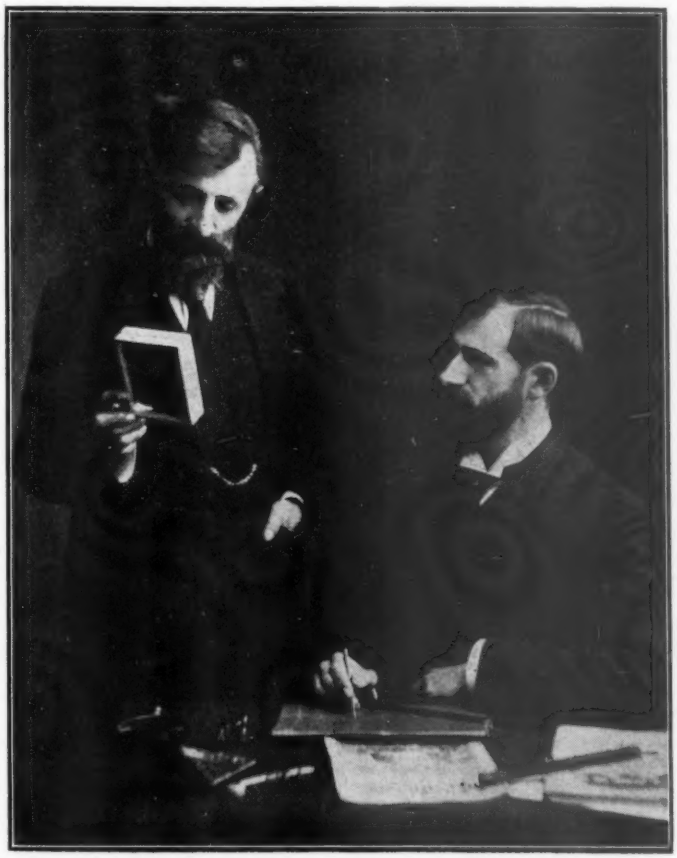
A quart tin can is about four inches in diameter and five inches high. Twelve of them set an inch apart and allowing an inch on each side and each end will measure five inches deep, sixteen (16) inches wide and twenty-one (21) inches long. They have a cubic capacity of about 690 inches. The frame, which is 16x21x6 inches inside, contains 2016 cubic inches, so almost 33 per cent of the cement is saved, and there will be no loss of strength, while the stand will not be quite so cold as though made of solid cement, owing to the 690 cubic inches of air confined in the cans.

Buck Grove, Ia.

Charter Oak Fair

By J. E. Crane

CHARTER OAK fair held at Hartford, Conn., is of more than ordinary interest to beekeepers. In addition to a fine hall 40x80 feet, near the entrance to the grounds, they have a premium list of some $500, as well as concessions for selling honey, wax, honey sandwiches, etc., making it worth while for beekeepers to put time and expense into their efforts to get up an attractive display.



THE FOLOPPE BROTHERS

In addition to a large display of comb and extracted honey there were over forty single-comb glass hives of various races of bees, as well as queens caged ready to mail; fine displays of wax, beekeepers' supplies, canned fruit, vegetables and cooked food.

While the quality of honey was not all perhaps equal to some former years, owing to an unusual amount of honeydew in many parts of New England, yet the improvement in the exhibits over six or eight years ago was very noticeable.

The exhibits of beeswax were very fine. Many of them were so nearly even in quality that the judge was not a little embarrassed in deciding who should receive the highest prizes.

Connecticut was formerly thought to be a rather poor section for beekeeping and that not many years ago, but one is surprised to learn of the yields of honey that enterprising beekeepers are now securing, who are giving almost their entire attention to the business. The Connecticut State Beekeepers' Association has doubtless done much in developing this industry in the State.

One of the interesting things about this fair was that it was held open, not only during the day, but well into the night. Located near a large city, a multitude of people could come at night who had no time for it during the day. There was a larger attendance on some nights than during the day.

Another unique feature of the fair was the concessions for the sale of honey, wax and other things connected with this industry. How natural if one sees a nice display of honey to want to buy a section or a bottle to take home with other things from the fair! Partly filled sections are sometimes cut across from corner to corner into four pieces, each side having a triangular piece of comb attached to it, to be eaten clear. How much better to sell honey to a crowd in the form of a sandwich. A small wheaten roll weighing two or three ounces is cut open and a thin slice of honey one-fourth or three-eighths of an inch thick is placed between and the two halves of the roll closed, making a delicious morsel for a lunch. Honey fizz made from a preparation of honey and soda water had a large sale and is a most healthful, palatable and nutritious drink. So great was the demand for these refreshments on the first day of the fair, when there was an immense crowd, that over 1,800 five-cent tickets were sold, each ticket entitling the owner to a glass of honey fizz or a honey sandwich.

I understand that the sale of honey at the Eastern States Dairy Show at Springfield, Massachusetts, last year was very satisfactory. The demand for honey appears to be on the increase when brought to the attention of people. No less than four different parties were selling honey. One of these was selling ounce cakes of wax, as well as honey, for five cents a cake. He had sold out before the close of the fair. The price for which

honey was selling was 20, 25 and 30 cents for half pound, three-quarter pound and one pound bottles. Sections sold for 30 cents, although less than pound weight.

Speaking of the sale of honey reminds me of an anecdote some one was telling me while at the fair. He said that while attending a beekeepers' meeting one man said it was not fair for those who sold supplies to deal in honey. He had bought supplies of a certain firm and when he came to offer his honey at a grocery store he found the firm that sold him his supplies had supplied the store with honey and he did not know what to do with the product of his half dozen hives. The party telling me this said he did not propose to lose the sale of his honey by honey from outside the State, and went to work and sold his entire crop of several tons without difficulty. In fact, he found the local producer has the advantage of those dealing in honey who live at at distance.

The sectional hive seems to be gaining favor among the more enterprising beekeepers of Connecticut, especially where there is much disease. One man told the writer that European foulbrood would not go through a queen-excluding honey-board; so if a hive was found diseased you had only to raise the diseased combs above the queen-excluder and give the queen new foundation below, and they would clean up. It seemed too good to be true. Another told of buying a lot of bees very cheap. They were so badly diseased. He raised the infected combs above a new super and both above a queen-excluding honey-board, placing the queen on foundation below the excluder, and, although the colonies were badly infected, they had nearly or quite overcome the disease and given a good crop of surplus honey. It looks as though there might be something in it. I noticed, while at the fair, the tendency of producers to get together in other pursuits than beekeeping. The peach growers have a New England Peach Growers' Association; the market gardeners, the Hartford Market Gardeners' Association. And the tobacco growers of the Connecticut valley, and even the onion growers, are organized for buying their fertilizers and selling their products.

I almost forgot to speak of the daily demonstrations of handling bees. A small space, perhaps five feet square, enclosed with wire screen with a hive of bees, at one side of the exhibit, was utilized for this purpose, and the hive opened and the various ways of handling of bees explained. Few exhibits at a fair will attract a crowd quicker than such a demonstration, or are of greater educational value. Many persons will see the queen bee for the first time and learn interesting things about bees and beekeeping of which, without such a demonstration they would have remained forever ignorant.

TOLLON BERRIES, A FIVE-CENT BUNCH. (Photograph by Alice Coldwell).
Tollon, or Toyon, *Heteromeles arbutifolia*, the California holly. It is indigenous to the Pacific coast. It has white flowers and bright red berries.

FLOWER SELLERS ON THE PUBLIC STREET IN SAN FRANCISCO. HERE FLOWERS CAN BE PROCURED ANY TIME.

My Neighbor's Garden

By C. D. Stuart.

JERRY, my neighbor, bent under the weight of Tollon berries, paused to greet me. A word to the dog tugging at the chain in his hand, and he lowered the burden on to the stack by his cabin door.

"Gettin ready fer market," he volunteered.

"Which one?" I asked, with vague recollections of fish odors.

"Street flower stands," he explained. "Couldn't celebrate Christmas in San Francisco with California holly, even if those dagoes do mix it with prickly oak to fool people into thinkin' it's eastern holly."

"Frisco'll celebrate without yours unless you head off the motor fiends that infest this country," I retorted, remembering my errand to warn him against their depredations on his Tollon hedge.

I couldn't help seeing them. They always honked aggressively at the

bend of the road just above my apiary, where they would stop at sight of those giant clusters of cardinal berries aloft on shrubbery almost as impenetrable as a tropical jungle. In a few moments they would slip quietly back down the grade, guilty tonneaus aflame with spoils. "After all," I ended, cheerfully, "why waste good gasoline climbing hills when more and better berries within a half mile of the town as the bee flies, can be had for the stealing?"

But my neighbor ignored the thrust. He fastened the dog, made room for me on a rough bench and continued to sort the branches into bundles of sizes intended to entice the coin of every denomination from the pocket of the public—small, short-stemmed, five-cent bunches; small, longer-stemmed bunches for a dime; two, four and six-bit sizes; and the gorgeous armfuls. A tolerant smile played on his weather-beaten face.

"A machine allus makes a feller act like he owns the earth." A wave of his free arm dismissed the subject. And even though I knew positively that from the time the advance guard of the summer visitor, on the pretext of inspecting furnished bungalows, boldly approached his front door, to midwinter, when the small-boy pest on a still hunt for a Christmas tree, sneaks an axe from my woodpile, selects an unfrequented spot and wriggles through the hedge, each month ushers in its own peculiar type of human trespasser—plus my bees whenever the flying is good—I could say no more. Indeed it was only the incident of my axe that had first prompted me to speak. I wanted to square myself with my neighbor, as it were.

But more than that, I wanted to **know** him. I wanted to know why any man would deliberately choose a rough-brush-covered piece of land for a home, and what he was growing on the other side of the hedge that walled it in. So did everybody else. Many pointed a significant forefinger to the forehead when his name was mentioned; also it was rumored that he was a writer, a Mormon, a linguist commanding seven different languages, a reformed hobo, a——, But why enumerate further when gossip agreed only on the one point, that he was a "harmless gink?"

My bees alone came and went regardless of the law and local prophets, secure in their ancient right of honey toll, for the lawyers who had passed my neighbor's title had, through some strange oversight, neglected to require quit claim deeds from those tiny claimants. And each season my hives are filled with fragrant amber honey, subtly reminiscent of the large clusters of spicy white flowers that bloom in July, and often earlier, according to locality; the Tollon being common to nearly all sections of California.

For three blessed years I had watched that hedge grow. And now at last I was on the other side and being invited by my neighbor to partake of a curious wine-red drink which he had made from his Tollon berries after an old Spanish-Californian recipe.

"The Indians ate the berries," he informed me; "they used 'em as a sort of relish, or salad."

So we ate them, too. They were acid and slightly astringent, though not exactly unpleasant. And the quantity! There were berries enough to decorate every Christmas tree in the world, and only that hedge of the same to protect it from the world. For my neighbor had cunningly decided against board and picket fencing. Neither did he select the latest thing in barbed wire, naively suggested by the local hardware dealer. "Reg'lar fencin' would be shoutin' fer scrubs to come an' break it down." And few suspect the luxuriant rows of Tollons that completely cover my neighbor's half-acre—a rich and glowing tribute to his ministrations with hoe and hose. For under cultivation and adequate pollination he asserts the yield of his trees has increased a hundred fold.

So my bees had done their bit for Christmas Jerry.

I arose to go. My neighbor arose also.

"You see, folks can't do much harm except to the hedge," he concluded, graciously referring to my well-meant tip. "They can't get a look inside, can they, good old Jane dog?" He stooped to stroke a lank but graceful canine.

It may have been the wine-red drink, or it may have been the holiday atmosphere; I do not know. But I reached over and poked my neighbor familiarly in the ribs. "Come off! What about the summer visitors that make friends with your dog, take possession of your garden, and the gardener, too, and go away with enough foliage to stock a greenhouse? May be that don't affect your crop!"

"Say," he whispered, how'd you know?"

"They raid my place first," I whispered back.

He looked puzzled.

"My beehives," I ejaculated. They all appear to think they are some new-fangled bungalow. Can't warn 'em off! Finally one day some of 'em got curious about the furnishin's an' peeked in."

My neighbor thrust out a horny hand. "Shake!" he roared.

Los Gatos, Calif.

JERRY PREPARING FOR THE HOLIDAYS.

The Paradise of Bees

By Bro. Romain

FOR the interest of beekkeepers, I relate here the conversation I had the other day with Mr. A. Evans, of the Inshallah Dairy Farm, an ex-officer of the Indian army. We were talking of bees, when he remarked, "China is a very poor country compared with India, which may be truly called 'the Paradise of Bees,' on account of the perpetual summer and the abundance of flowers. When I was there in 1875, in one of my rambles through the jungle near Kamptee (Central Province), I came across the most astounding sight that any beekeeper has ever dreamed of in his life. In the branches of a gigantic multi-trunk banyan tree, so common in India, there was an enormous nest of bees; it looked like an old crenated castle, alive with the buzz and the movement of countless bees. Imagine a mass of combs 18 feet by 12 through, peopled by several hundred colonies forming a single block, storing and multiplying year after year, swarming from one side to the other.

"I tried to approach the fortress, in spite of the natives telling me I would be killed—(besides, they added, the honey was not good in the hot season)—but on nearing the combs I had to beat a hasty retreat, assailed by thousands of infuriated bees of the fiercest kind—the tiger bee. In proper time the natives used to get honey by means of long bamboo poles with which they were poking the monster nest to secure a good flow of honey. What a pity I had no

kodak with me; such a photo would have been a real treat for beemen."

Last year the Gleanings spoke of a certain bee-rock in California, but how far that rock is outmatched by this wonderful bee banyan tree of India, which constitutes, I think, the record of beedom.

Shanghai, China.

(This seems too wonderful to be true, but the responsibility is with the narrator, Mr. Evans.—Editor.)

A Honey-House

By the Editor

CAN you give the plan and description of a small and serviceable honey-house, inexpensive and easy to build?—A Reader.

Very few honey-houses are built, except by specialists in honey production. Usually some part of an outbuilding is used for this purpose. Many people, after the honey has been removed from the hives, keep it in an attic or in some unoccupied room or in a warm and dry cellar. Specialists who wish to make the handling of honey easy build their honey-house in two stories, in a hillside, so that both stories may be entered on the level like a basement barn. In the upper story the extracting is carried on and the honey tank or honey receptacles, whatever they are, are located below. So the honey can run by gravity from the extractor directly into the tank which is to receive it.

A few indispensable requirements should be observed in putting up a honey-house. For a small apiary, a very small building will do. But it should be bee-proof and mouse-proof. If the bees can come in through the joints of the siding or under the shingles of the roof, an experience that the writer had repeatedly in his young days, there is neither peace nor comfort in handling or extracting honey. Besides, not only will the bees make visits at unexpected and undesirable hours, but wasps, flies and beemoths will also enter the building and spoil everything in reach.

Mice coming through cracks in the floor, or about the corners of the wall, are also an unmitigated nuisance. They will soon gnaw holes in the section cases or in cases of extracting frames and do more damage in one night than moths could do in a whole month of summer.(If you happen to leave an open pail or a jar to catch the drip of the extractor or of some leaky super of sections, you may find in it an embalmed mouse. So we strongly urge our friend, if he builds a honey-house to make it, at least the lower floor of it, of solid concrete, and to use well-jointed boards in making both the floor and the walls.

It is not necessary to build a honey-house frost proof. Unless you wish to keep your honey from granulating, in which case it will be best to keep it in a regularly heated room, you will find it advantageous to keep your honey-house, or that part of it in which the empty combs are piled over winter, as cold as any outbuilding can be kept during the winter months. This, in our so-called temperate climate, north of the 35th degree and west of the Rocky Mountains, will insure perfect immunity from moths for all your empty combs in spring.

A very good way, if you wish to be able to work in your honey-house during the winter, to get things ready for spring, is to have one room in it plastered and finished like a room in your home. A small stove will help keep it warm.

Screens are indispensable on a honey-house. In January, 1916, we gave a photograph of the entrance to the lower story of our own honey-house, with an entry screened on both sides of the door. This entry enables the apiarist to go in and out without fearing the intrusion of robber-bees, who will spend their eagerness in trying to enter at the screen next to the wall. Similarly, the window screens are arranged to turn the bees out without permitting them to return, by simply extending them a foot or so above each window with a space of a quarter inch between them and the wall. They are cleated on both sides with strips of lath under and over the edge of the wire screen. The bees, always ascending when they reach the screen to escape, easily find their way out, but when they return they do not have enough powers of reasoning to seek admission at the top edge of the screen. They seek it at the spot where the odor of the honey attracts them. Not only does this release all bees, but, if the window is left open all summer, the flies even will be kept out of the honey-house, and this is quite a convenience. Needless to say that every window in a honey-house should be similarly provided with screen escape.

If you have a house in use already and it is not quite bee-tight, you can help matters very much by using, on the inside of the wall, sheets of tarred building paper. The odor of the tar is not liked by the bees, and they are usually baffled and disconcerted by this odor, which is so unlike that of their combs.

An ideal honey-house could be built, in countries where they winter bees in the cellar, by making two stories in a hillside, the rear part of the lower story to be used as a winter repository for the bees, the front to be used as a work room. It would be necessary to have a heavy non-conducting wall between these two rooms, so that the bees during their winter sleep would not be disturbed by changes of temperature.

Our columns are open to useful suggestions on this question.

Small Apiary Management

By O. H. L. Wernicke

NINETEEN SEVENTEEN was not a very good honey year in this section. A cold, backward spring and much rain during white clover honey flow resulted generally in excessive swarming and meager surplus stores.

As always, there were variations in the results under apparently similar conditions, some colonies producing well while others did little or nothing. The same rule holds between apiaries.

My own little apiary did very well, indeed, yielding an average per colony in excess of 150 pounds, two-thirds extracted, one-third section honey. My 1916 average was better than 200 pounds per colony, spring count. Increase by primary swarm, 1916, 30 per cent; 1917, none. Winter and spring losses, 1916, none; 1917, none. As you will correctly infer, these results are unusual and far above the average for this region. It is also to be remembered that small apiaries often make a better average showing than do larger ones.

Nevertheless, here in Grand Rapids are many small beekeepers who obtained big honey yields in 1916, but very little this year, and the larger apiaries in the surrounding country were generally disappointed over the results for 1917. Excessive swarming seems to be a general complaint from this territory this year.

There has been more than the usual necessity for spring feeding and reports of dwindling. I am not a believer in much feeding, either in the fall or spring. I can see no advantage in leaving scant stores, and then feeding syrup. The extra labor, the risks and difference in quality of food all seem to favor the plan of leaving more than ample stores. Some very good beekeepers say 25 pounds, others 30 pounds, and occasionally one believes 35 pounds is about the correct amount of winter food stores to leave a colony. Viewing this matter of winter stores broadly, it makes little difference whether we leave 25 pounds or 50 pounds, provided the amount is ample. Unconsumed stores are not lost. The excess from one season is invariably represented by a like gain of surplus honey the next. You can only lose it once, i. e., in the first season, and when this one season's excess is spread over many years and credit is given for reduced losses, reduced dwindling, earlier brood-rearing and stronger colonies, the balance, I am convinced, will most frequently be found on the side of leaving excess stores.

I like the house-apiary plan; that is, if you have a house with ample light, ventilation and working conveniences. It is a pleasure for me to work with bees indoors. It is far more comfortable than working out of doors and it saves both time and temper during unfavorable weather.

Except when there is no honey-flow, the bees from hives in process of manipulation go at once to the light and out of the house. That is an advantage. The same rule holds, but to a lesser degree, during periods on no honey-flow. Altogether it is less troublesome and requires less costly equipment and less work than the out-of-doors plan.

My beeware equipment is completely standardized and consists of unpainted side-wall, eight-frame Langstroth hive-bodies, no-beeway 4¼x4¼ sections, No. 2 supers, honey-

boards or plain flat covers, and reversible bottom-boards. I use none but wired Hoffman frames with full foundation.

Each colony is permanently housed in two full eight-frame hive-bodies; the two-story, sixteen-frame home thus provides ample brood space for the most ambitious queens under all circumstances, with plenty of room for stores. I regard this as a matter of importance during the early spring, when it is desirable to create an abundance of young bees for the approaching flow. I do not use queen excluders, and I am never troubled with brood in the supers.

About this time of year I look through all my colonies to see that each has abundant stores, and is otherwise normal, and, at my earliest convenience, prepare them for winter.

The packing for winter is for me a simple operation, quickly done in any kind of weather. The operation consists first of placing an empty super under each hive, between the bottom-board and lower hive-body. I leave all the section-holders and fences in the super. This provides ample circulation of air, space for dead bees, cappings and so forth, and may be used as a feeder. I leave a full five-eighths inch opening to insure an abundance of air and circulation, as practically no dead bees or cappings fall on the bottom-board, but are caught between the fences, on the section-holders of the super, hence no obstructions can occur to the free circulation of air under the entire hive surface.

The under super also serves as a sort of windbreak and allows the bees to cluster if they so wish; the vertical fences serve as ladders for the bees to come and go when weather conditions permit.

Having placed my colonies on these sectionless supers, I proceed to tie on winter overcoats, consisting of slabs made from five layers of corrugated strawboard, pasted together with silicate of soda and the edges bound with paper tape. The slabs of strawboard are about an inch thick and are accurately cut to fit the sides and ends of the hive all around, and extending from the floor to three inches above the top edge of the two-story hive. Three strong cords, center, top and bottom, hold these slabs in place. I tie a loop in one end of the cord, which makes it easy to draw it taut and hold it in place, by simply tucking the loose end under. There are then no knots to untie and tie, and the packing can be taken off and replaced in one minute.

For top packing, I sometimes use a honey-board next to the hive, and above that a burlap chaff bag, well stuffed and pressed down tight all around between the upward-projecting sides of the corrugated slabs. Last winter I used some corrugated strawboard slabs on top in place of the chaff bags. These slabs consist of ten or twelve layers of strawboard and are 2½ inches thick. The layers are held together by silicate of soda applied to the surface of each layer for about three-fourths of an inch all around the edges. I prefer not to cover the entire surface of the layers of these top slabs with silicate, because it is more or less impervious to moisture and would reduce the absorbing qualities of the cover.

With these top slabs I do not use the honey-board under them. I cut up some old carpet to fit the hives, which I place next to the frames, and then press the top slabs down on the carpet.

This done, I reduce the 3x14 inch opening through the wall of the house, over the alighting-board, to 1x6 inches. This helps to keep out the cold and wind. This opening is about 8 inches away from and 1½ inches below the ⅝x12 inch opening of the hive, permitting flight whenever the weather is suitable. When all is snug for winter I close and darken all doors and windows, of course. This keeps the bees out of the house.

I am now through with my bees until spring. I remove the under super and clean the bottoms about time pollen is coming in, and at this time the outer openings through the house wall may be enlarged.

About the time that the fruit bloom comes I enlarge my hives by adding a third full eight-frame super, and sometimes two of them. This seems to inspire the colony with a spirit of hustle—"a big task ahead, girls," spirit, as it were. I never cut out queen-cells. The bees do that when they find so much room they cannot spare a swarm, but this extra room must be given early, the earlier the better. Brood rearing now goes on at a maximum rate, and in case of a poor queen, she will generally be promptly superseded. The colony seems to realize the magnitude of the task ahead with so much available space.

When I find that the bees have begun to store honey in the third story of the hive, I lift it off, and replace it with another, in which the bees are working, on top of the others. With work in process in the topmost super, no other coaxer is needed.

As warm weather prevails and the colony becomes more prolific in young bees, I give them top and middle ventilation by using a honey-board for cover with bee-escape hole open. I also shift the third hive-body or super above the second story, 1¼ inches forward, thus creating an opening front and back, which the bees will guard and regulate to suit. This combination of ventilation and big working space given early, I believe to be as near a swarm preventive as it is possible to have. I have had no swarming this season.

Grand Rapids, Mich.

(This management of bees is as simple and as "snug" as the famous "Wernicke book cases." If you know of a better method for a small apiary, reader, let us hear from you.—Editor.)

A HOLLOW LOG APIARY IN THE MOUNTAINS OF WEST VIRGINIA.

Beekeeping as I Observe it in West Virginia

By Chas. A. Reese.

THROUGH neglect and lack of modern equipment beekeeping in sections of West Virginia has been on the decline during the past decade, while in other localities a great deal of interest has been taken toward advancement of the industry. Without doubt the extremely varied situation may be attributed largely to topographical conditions, which to a certain extent have affected the extension of railroads in some counties. The existence of conditions of like nature necessarily means long overland hauls, from twenty to sixty miles in some instances. Some roads in the winter and spring seasons are entirely impassable to wagon traffic. It is during that season of the year that all hives and supers should be obtained and placed in readiness for emergencies which are sure to occur in beekeeping.

In certain localities bees are kept, not as a source of income, but as a provision, for production of sweets for home consumption. So little or no capital has been invested in equipment. Naturally being able to secure equipment only under the existing difficulties, the next best thing is done, and that is to use the materials at hand. The substitution for a hive is generally a hollow log, barrel, keg,

box or occasionally a modern hive without frames or foundation. Hives of hollow logs are locally known as bee gums, because of the general use of a section of a sour gum tree. Such apiaries are very common. A combination of all is frequent. Bees kept under such conditions are allowed to swarm without attempt to control them, and in most cases swarming is encouraged. The number of swarms cast by one colony is looked upon as an indication of strength. Every year large numbers of bees are allowed to seek refuge in the timber. Years of such practice have made bee trees quite common in the virgin forests of the State.

Many people depend entirely upon honey taken from bee trees and they are usually amply repaid for the time and energy expended in search for these trees. Reports of two or three hundred pounds of honey obtained from a tree are very common. Argument is often advanced that it is easier to obtain honey from the forest than by keeping a number of stands. It is likely true in such instances because the bees are kept under conditions which are adverse to honey production.

Wild bees are the nucleus of more than one apiary. Among those who have begun extensive beekeeping from this source is Grant Luzader, of Pennsboro, West Virginia. Mr. Luzader, a jeweler by trade and naturalist by choice, spends his hours of recreation in hunting bee trees. Unlike most bee hunters, who take only the honey and leave the bees to their fate, he has practiced conservation and places all bees in modern hives. He now has 115 colonies scattered in several outyards. Being a firm believer in the necessity of protection for summer as well as for winter, he uses a type of double-walled hive of his own construction which is modern in every respect. Through continued use of full sheets of foundation and selection of brood-combs, drones have been reduced to a minimum. Having a source of nectar from a varied flora, as fruit bloom, locust, willow, white clover, poplar, sumac, asters and autumn flowers, the bees never fail to produce a paying crop of comb and extracted honey. Occasionally a box-hive beekeeper adopts modern methods and enters the class of progressives. Levi Gregory, of Webster Springs, West Virginia, after reading considerable literature on the possibilities of apiculture dedecided that the day of the hollow log beekeeping had passed. Several modern ten-frame hives with complete equipment were purchased and immediately filled with bees. Some of his mountain neighbors declared he was a fair specimen for the asylum, while others watched his experiment with great interest. It required only one year to convince his critics. A complete change of beekeeping has taken place in his locality. This past year he tried another experiment in the way of buying pound packages in making increase in his apiary. The returns from these bees were the best of any in his apiary.

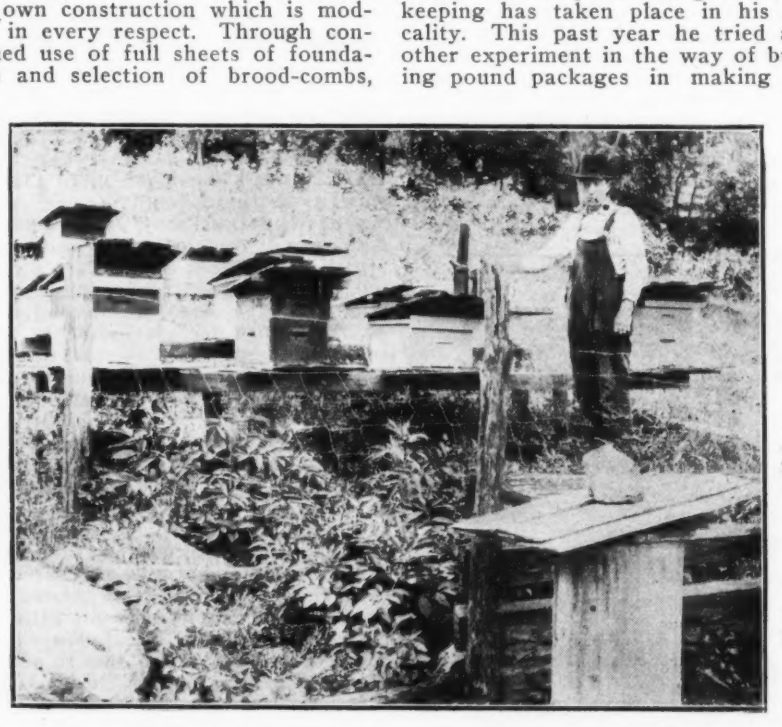
PART OF ADAM J. YAHN'S APIARY.

His apiary is located five miles east of Webster Springs, on the side of a mountain. Here the bees have access to the willows and soft maples in the valley, and locust, poplar and basswood on the mountain. Besides, there are wild flowers and shrubs. Because of the trees growing on the slopes of the mountains at different elevations their blooming period usually covers a period of two to six weeks.

That section of West Virginia which lies between the States of Ohio and Pennsylvania, known as the Northern Panhandle, is a hotbed of enthusiastic beekeepers. Among those who stand out with prominence is Will C. Griffith, of Elm Grove. Mr. Griffith is connected with one of the large newspapers of Wheeling, but finds time during his spare moments to aid in the betterment of the industry. He has established a demand for honey among his neighbors that far exceeds the output of his apiary. In order to keep his customers supplied he has found it necessary to import large quantities every year. He is a strong advocate of Italian bees, the ten-frame hive, full sheets of foundation, ample super room for surplus and sufficient packing for wintering. Through his untiring efforts he has organized his beekeeping friends into a local association, besides being a prominent figure in organizing the State Association, of which he is Vice President.

A neighbor and close friend of Mr. Griffith is Adam J. Yahn, of Triadelphia. Mr. Yahn is a producer of comb and extracted honey. The snow-white double-walled hives neatly arranged above the green carpet of close cropped blue grass harmonize so well with the deep green of the poplar and basswood on the surrounding hillsides, that it certainly could not be otherwise than alluring to people of like natures to assemble and discuss their problems.

If by good fortune in your travels you should drive through Mercer county in late summer your attention would be drawn to a well-kept farm



LEVI GREGORY AND PART OF HIS MODERN APIARY. NOTE THE HOLLOW LOG IN THE FOREGROUND.

which seems entirely surrounded by a virgin forest of chestnut, poplar and basswood. Here and there in fields of ripening grain are many basswood trees. This is certain evidence that the owner is a friend of the bee. Upon inquiry you will be told that this particular farm is known as the "Elite Farm." What a fitting name! But who is the proprietor? No other than T. K. Massie, a veteran beekeeper whose name is prominent because of the "Massie" hive, of which he is the inventor. Mr. Massie has seen both sides of beekeeping, having met reverses through the ravages of foulbrood. His trouble has been largely due to neglect on the part of neighboring beekeepers which too often results in loss to the innocent party. Nevertheless, Mr. Massie never lost courage, but tried to secure legislation whereby he could compel treatment of disease in such cases. It was largely through his influence that West Virginia now has an efficient law for the control of bee diseases. Mr. Massie now holds the office of President in the West Virginia Beekeepers' Association.

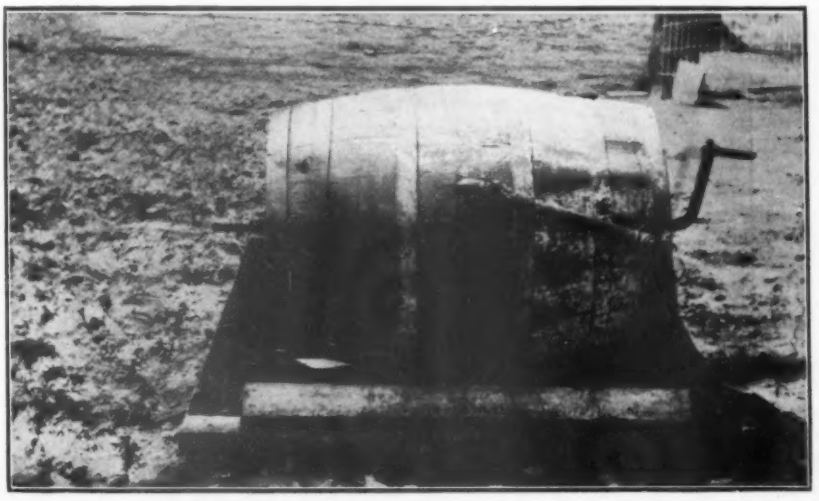
Many of the box-hive beekeepers have had their views changed within the past few months and as far as conditions permit are rapidly adopting modern methods. In connection with the present movement of good roads, it will be only a matter of a year or two until beekeeping in this vast domain will acquire a different aspect.

Charleston, West Virginia.

H. C. SHORT SHOWING THE SHADE BOARD USED IN THE ACHORD APIARIES

Shade Board Made of Shingles

MANY beekeepers, north and south, use shade boards of various kinds to protect the hives from the direct rays of the sun. In many places in the south where lumber mills are near at hand, slabs and shingles are very cheap. The picture shows a shade board made of shingles used by W. D. Achord, of Alabama. The butts of the shingles are nailed to a block and, when on the hives, look much like the roof of a building. Mr. H. C. Short is holding one of the boards in his hands.



BARREL FOR MIXING FEED AT THE PENN APIARIES.

A CORNER OF GRANT LUZADER'S HOME APIARY SHOWING HIS TYPE OF HIVE.

They are light and easy to handle, but one would expect them to be easily blown off by the wind.

In the middle west, where lumber is high, they would be altogether too expensive to be considered.

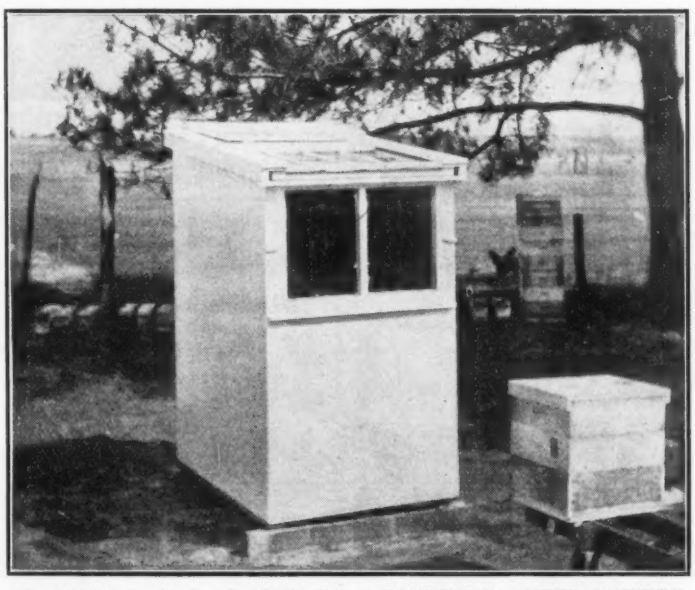
Mixing Feed in Quantity

IN large apiaries it often becomes necessary to mix feed in large quantities. The Penn Company has a novel arrangement whereby the syrup is mixed on the way to the yard where it is to be used. A strong barrel is mounted with an axle at each end, one end a crank. When ready to start to an outyard where feeding is necessary the sugar and water are placed in the barrel and the bung closed. On the way one man keeps the barrel turning in much the same way that some of us do our

churning, except that our barrel churns are mounted at the middle instead of the ends. The churn, however, would serve the same purpose very well. By the time the outyard is reached the agitation has mixed the syrup sufficiently and it is drawn off by means of the faucet, which can be seen in the picture.

A Grafting House for Queen Breeders

ON my trip through the south I became much interested in the grafting house in use at several of the queen breeding yards. The one shown in the picture belongs to W. D. Achord, but I found similar ones in use by M. C. Berry and also at the Forehand yards. The queen breeder finds it necessary to continue his work regardless of weather conditions. At times the days are wet or chilly and the delicate larvae used for grafting are in danger of chilling if left long exposed in the open. As will be seen from the picture, there is an abundance of light, since the top is of glass as well as the large window directly over the bench at which the beekeeper sits. It is an easy matter to select a few combs of newly-hatched brood and carry them into the little house where the queen breeder can work in comfort. Where the business is extensive it is necessary to graft a large number of cells every day. To carry the combs to the regular honey house and back to the queen yard is not as convenient as to step into this little building which is used for no other purpose. One great advantage of the grafting house is the freedom from the annoyance of robbers which are always buzzing around where combs containing honey are exposed. The building is only about four by six feet, and is easily moved.



GRAFTING HOUSE AS USED BY A SOUTHERN QUEEN-BREEDER.

LEGAL SERVICE DEPARTMENT

Dangerous Laws

In several States the responsibility of bee inspection is placed in the hands of men who are appointed by the Governor for a term of years. The office thus becomes a political one and is subject to all the dangers of the political system. When competent men happen to be appointed the work may be efficiently handled, but competent men will not always be selected, for it too often happens that political appointments are made for political reasons rather than because of the special qualifications which the appointee may have for doing the work of the office.

Even though high-grade men are always selected, there is likely to be frequent changes in policy. Since the inspector is responsible to no one in particular, he is free to decide to follow any particular policy or none at all, as appeals to him.

In many States the inspector is given absolute power to visit the beekeeper's premises, examine his hives, and if he finds disease to be present to destroy the property. This in itself may easily prove to be as great a danger to the beekeeper as the presence of foulbrood in the neighborhood. The inspector is constituted sole judge, jury and executioner and there is no appeal from his decision. Since the inspector has no supervision, if he is disposed to use the authority of his office to punish some beekeeper against whom he holds a grudge, the latter has small chance to get a square deal.

I certainly can see an advantage in laws that require proper attention to diseased bees, but feel that the inspector should be under supervision and subject to some check in case he is remiss in his duty. In case he is mistaken in his judgment and destroys healthy colonies there should be some relief for the owner of the bees. Rather there should be some provision to insure that healthy bees could not be destroyed under authority of the law. In States where the inspectors are under the supervision of the agricultural college there is little danger that incompetent inspectors will long be permitted to remain in office. There is also likely to be a uniform policy which will result in constant work toward a definite end. In case of a mistake or ill-advised action on the part of an inspector, the beekeeper can always appeal to the college authorities.

Supervision has another advantage in getting much better returns for money expended. At the New York meeting of inspectors and instructors in apiculture, it was common talk that in some States inspectors waste much time and money in visiting among the well known beekeepers of the State instead of spending the time in much needed field work.

After holding the office of State Inspector of Apiaries for five years under the political system, I have had a good opportunity to become familiar with the dangers of the system and with the difficulties under which the inspector must work. Supervision seems to me to be as much to the advantage of the inspector as to the beekeepers, and I fail to see how an inspector who has the welfare of the industry at heart can fail to welcome the change from the political system to the supervision of the agricultural college, or department of agriculture.

Spraying During Bloom

"I had 25 stands of bees poisoned and killed by people spraying their trees in full bloom. What can I do about it?" ILLINOIS.

There has been so much complaint from beekeepers who have lost bees from spraying while in bloom that several States have passed laws making it a misdemeanor to spray the trees while in bloom. New York has such a law, but the extreme penalty is only a fine of fifty dollars.

The best remedy which the beekeeper has in cases of this kind is to convince the fruit grower that it is to his own interest to spray after the petals fall. At this time the poison will be more effective in destroying the codling moth as well as saving the bees. Horticulturists and entomologists very generally advocate spraying after the blossoms fall and their influence is doing more than anything else to save the day for the beekeepers. The fruit grower and beekeeper have a mutual interest which should not conflict. The bees are of so much value in carrying pollen among the blossoms that the fruit grower would in many cases gather but poor crops without them. Ac-

cording to some authorities, spraying when the blossoms are open injures the fruit as well as killing the bees.

In States where there is no law forbidding, if the fruit grower persists in spraying while the trees are in bloom about the only thing which the beekeeper can do is to move his bees away during the period of danger. This involves much labor and expense, but many beekeepers find themselves forced to do it.

Ordinance Against Bees

"There is a determined effort to get the city council to pass an anti-beekeeping ordinance. The agitation seems to be the result of some personal grievances The council has been reluctant to pass the law, but the complaints are persistent. They are not after me, but in getting others they may get me."

INDIANA.

In this case we have communicated with the city officials of the place mentioned and have called their attention to court decisions which have declared an ordinance of this kind to be invalid.

The keeping of bees in cities and towns is a source of much annoyance, and attempts to prohibit the keeping of bees within the limits of the corporation are frequent. The beekeeper should bear in mind that the public has rights which he is bound to respect as much as his rights must be respected. If bees are so situated that they persistently annoy neighbors or passersby they thereby become a nuisance and there is ample authority of law to abate a nuisance.

If the bees are so placed as to endanger others, the beekeeper may be held liable for damages that result. For instance, in a case upheld by the Iowa Supreme Court, the hives were so placed that the only unobstructed passageway for the bees was toward the road. A man hitched some horses to a post in the road and the horses were stung to death by the angry bees. In this case the beekeeper was held for the damages, since his bees should not have been so placed in a situation where it was necessary for them to fly directly from the hive into the public road.

While there is authority of law for declaring bees a nuisance when they in fact become so, ordinances declaring all bees a nuisance within the limits of the town have not been upheld by the courts.

The subject of "Bees as a Nuisance" is fully covered in "Productive Beekeeping," in the chapter on laws that concern the beekeeper. It will be well for persons interested to refer to this book for further information on this subject.

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

A Good Harvest for a Beginner

I am going to give you the history, so far, of the first swarm of bees that I ever saw, and will appreciate the favor if you will let me know if I am getting the average amount of honey from the colony.

I got the swarm June 12, 1916. In the fall I took off 48 boxes of honey, leaving brood-chamber as it was.

Above bees swarmed June 29, 1917.

On July 7, 1917, I took from original hive 92 full boxes (or sections), of honey, and on examining the hive September 22, 1917, find by middle of week I will be able to take off three full supers of honey, or 84 boxes.

This has been a poor honey season, so they tell me. My new swarm has just commenced to build in first super.

MRS. W. C. BARTHOLOMEW.

Illinois.

You are to be heartily congratulated. A harvest of 176 sections from a colony, with 100 per cent increase, is something a veteran would hardly feel like complaining about, even in a good season, and the season of 1917 has been unusually poor throughout the State, and no doubt in your locality. It seems almost a pity at this particular time that you did not have extracted honey instead of sections, considering the loud call from the government for the largest possible production of honey. The yield of extracted honey as compared with sections is variously estimated. A few say they can produce as much in sections as they can of extracted; a larger number say they can produce twice as much of extracted as of sections; but most agree that 50 per cent more extracted can be sucured. Figuring at this last rate, instead of 176 you might have had 264 pounds of extracted honey. In many places one kind of honey can be sold at as high a price as the other, at least this year, so you would have been fifty per cent better off if you had run for extracted.

Suppose you had obtained 264 pounds of extracted honey. You ought to be able to get 15 cents a pound for it (some are predicting that before spring it will be up to 20 cents a pound; but even if you got but 13 cents a pound, 264 pounds would amount to $34.32. The swarm ought to be worth to you at least $6, making the income from your one colony a little more than $40. If you should feel like complaining at that, you must be hard to please.

Of course, you may not average so well as that when you increase the number of your colonies, but the possibilities in the case are so promising that there is strong inducement to continue in the ranks of women beekeepers.

Bees in Vermont

The year 1917 has not been a very decided success in bee culture in Northern Vermont. It would be hard to say just why, for never did white clover cover the pastures more fully or the field clovers, red and alsike, look more enticing. Bees, in most cases, wintered well and seemed strong when put out, but we had a great deal of wet weather, and while it was ideal to make plants grow and bloom, my own theory of the lack of surplus is that they stayed in the hive and consumed during the rainy days much of the honey that they had stored during the sunny days, and by the time settled fair weather came the best of the honey season was over.

Some of the small beekeepers have had swarms cleaned out by moths. The bees were brown bees. Some time ago they were Italianized, but as the bulk of the northern bees are the common bees or a cross breed, the introduction of an occasional Italian queen does not hold them long with any Italian blood. The moths got into some of my hives, but have done little or no damage, for I open my hives often and if I find a wax worm or a cocoon I destroy it.

I lost two new swarms in unexpected ways this summer. The first was made of two frames of honey and brood and the old queen that I had taken from a hive that I had requeened. They went to work at once and had increased to nearly double, had filled another frame with brood and were coming fine, as I thought. On the last pleasant day they were going in and out lively as crickets. Then came a rain of long duration. When the weather cleared that hive was as silent as the grave. Indeed it was the grave of all that growing brood. Not a bee was in it except those in the cells, and those, of course, were dead. There were no dead bees on the board. They did not starve, for there was honey in the tops of the combs.

I had read and been told that bees would never desert their brood. It seemed to me that this swarm did just that. The swarm next this seemed to be much larger after this. Why did they go from their own hive to this? If the queen died they had eggs to raise a new one. If she went out with them why did the nurse bees leave also. Why did they go, in, after or just before a storm? I give it up. As Josh Billings said, "It isn't so much what folks don't know, as what they know that ain't so." I feel sure that the bee business is the worst possible business for knowing things that ain't so. The old proverb is that you never can tell which way a toad will jump, and I think apropos of bees, that after you have seen him jump a few times you still never can tell what will happen next.

The next little misfortune that I had was with a new Italian queen. I introduced her to a frame of sealed brood, gave a partial frame of honey, and for a week everything went well; then it began to rain, and for fear they would not have enough to eat, I filled a pint Mason jar with syrup, placed it in the feeder and put it inside beside the frame. It rained the best part of a week, but secure in the thought that they were well fed. I forebore to open that hive until it

cleared off. Oh me! Oh my! Queen and bees were dead, starved to death. They had eaten all their honey, but the syrup they had not touched. Why, Oh why? Didn't they know enough to crawl into the mouth of that feeder, where was food a plenty ready for them? Next time I try that trick I will look at them every day, if it rains pitchforks, tines down, and I will smell up that syrup with peppermint or anise, or something, so that they will know it is there.

My bees did not swarm, owing, I think, to removing frames for new queens. They did no great things, but like the old fellow's maple sugar, they made "enough to sell and some to keep," and they went into the cellar looking good.

JEAN WHITE.

Feeding Box Hives—Transferring

I have two colonies of bees in hives which have just starters in the sections and the combs are built crooked. What means would you advise me to use in feeding for winter? I expect to transfer them as soon as advisable to hives which have the full sheet of foundation. When would be the best time for this?

Mrs. W. R.

The first question is whether your bees will need feeding for winter. Even though they may have gathered little or nothing from white clover or other early sources—which is the case in many places—it is possible that the fall flow may be enough to supply sufficient winter stores, if, indeed, it gives no surplus.

It is possible, however, that you are in a location where there is generally no fall flow to speak of, and in that case it may be well for you to feed without waiting. Nothing is better than good honey to feed, but probably you haven't that. If you feed during the first part of September you can feed a syrup of equal parts of granulated sugar and water. No need to cook it; just stir it into the water till it is dissolved; only it will dissolve more quickly in hot water. If you wait till about the time bees stop flying, the syrup must be made strong, 5 pints or pounds of sugar to 2 pints or pounds of water, and to dissolve so thick a syrup it will be well for you to have the water hot or boiling on the stove and stir the sugar into it slowly, being sure not to scorch it, for burnt syrup is death to bees in winter. There is danger that so heavy a syrup may granulate, and to prevent this you may add an even teaspoonful of tartaric acid to each 20 pounds of sugar. Dissolve the acid in a little cold water and stir it into the syrup just before or after taking it off the stove.

Any good bee-feeder may be used, but if you don't happen to have any, you can use the crock-and-plate method. A one-gallon crock is a good size, although any size will answer. Put the syrup in the crock, lay over it a piece of heavy woolen cloth, or else 5 or 6 thicknesses of cheese-cloth, and over this lay a common plate upside down; then with one hand under the crock and the other over the plate quickly turn the whole thing upside down. Set your feeder on top of the top-bars, set over it an empty hive-body, and cover up beetight. If you feed early there is no need to dissolve the sugar. Just put dry sugar into the crock and then pour in the water.

It may be well to wait till the colony swarms next year before transferring.

MISCELLANEOUS NEWS ITEMS

The Boys' Working Reserve.—There has been organized under the Department of Labor, a boys' working reserve, the object being to urge boys under military age in the larger cities and smaller towns to come to the aid of the farmer and replace as far as possible the men called to training. There are nearly three million such boys, and if their entire help can be thrown in after school is out in the spring and until school reopens in the fall, they will help enormously.

Apiary work is admirably suited to just such boys. The bulk of the work comes at a time when the school boy is available. Every beekeeper should endeavor, if he needs help during the coming season, to help make a success of the Boys' Working Reserve.

Bee Conventions.—The following is a list of bee meetings to be held during December:

Chicago-Northwestern, Nov. 30 and Dec. 1.
Minnesota, Dec. 4 and 5.
Iowa, Dec. 4 and 5.
Wisconsin, Dec. 6 and 7.
Northeastern Kansas Dec. 7 and 8.
Ontario, Dec. 11, 12 and 13.

Order Supplies Now.—A recent bulletin of the Bureau of Food Administration has the above for its title. It says: "Prices are lower now than they will be later in the season, and bankers will usually be glad to advance money if asked to do so. Every carload of farm supplies shipped now will help to relieve freight congestion next spring. We can help ourselves and our country by buying now."

How is the Apple Crop?—Some reports coming in from beekeepers estimated the apple crop as far larger than last season, such reporters expecting, therefore, that honey would drop in price, owing to decreasing demand. It is true that in the whole of the West, the apple crop has been better than last year. This is offset, however, by the decrease in the Eastern crop. New York, last year produced about a third of the apples of the whole country. She finds herself short this year over 3,000,000 barrels of the 1916 crop, or 57 per cent less. It is estimated that the total crop of the country will hardly be in excess of 1916. Even were it greater, there is hardly room to prophesy that honey would drop as a consequence. There is a big demand for honey for foreign shipment, which will more than offset any slackening of the home demand.

Beekeeping in North Carolina.—Bruce Anderson, county agent at Winston-Salem, N. C., is not asleep on his job of getting his beekeepers to become beekeepers and not keepers of bee "gums." With this end in view he has just sent out to members of his "Bee Club" a circular letter urging that all colonies be transferred during 1918 into movable-frame hives. He proceeds then to give the results obtained by a few of his members who did transfer during 1917 and introduced Italian stock.

Mr. Anderson also gives directions for preparing bees for winter. Packing over the cluster is suggested.

North Carolina had an excellent crop in 1917, following a failure in 1916.

New York State Meeting.—The regular annual meeting of the New York State Association of Beekeepers' Societies will be held at Syracuse, N. Y., on December 4 and 5.

F. GREINER, Sec'y.

At the Zoo.—At the park. "Where are the monkeys?"

"The monkeys? We have no monkeys."

"But," showing a paper, "it says here that the Park Committee has established a model 'apiary.'"—British Bee Journal.

Missouri Meeting.—The Missouri beekeepers will meet at Columbia, in the rooms of the Department of Entomology, during Farmers' Week, beginning January 14 and ending January 18. The beekeepers days will be Wednesday and Thursday, the 16th and 17th. The editor of the American Bee Journal has promised a paper on "Commercial Beekeeping." For information write to Dr. L. Haseman, Entomologist, Columbia, Mo.

Kootenay and British Columbia.—Mr. W. J. Sheppard, Secretary of the Kootenay Beekeepers' Association, publishes a 4-page report, showing very favorable crops, and announces that the Kootenay Association is planning to amalgamate with the Beekeepers' Association of British Columbia. The members of both these associations buy queens and bees by the pound in the United States. Mr. Sheppard's address is Nelson, B. C.

The New Jersey Fair.—The New Jersey Beekeepers' Association, with some assistance from the New Jersey

Agricultural Department, secured space in one of the agricultural buildings at the famous State Fair at Trenton, held on September 24-28, for an Association exhibit, intended primarily to bring honey to the attention of the people. Various active members of the association volunteered to be in attendance upon designated days to talk honey and bees, and to assist State Bee Inspector E. G. Carr in supplying the demands of honey buyers. Hundreds of people were told of the wonders of bee life and industry, and thousands of questions were answered. It was a grand carnival of honey propaganda. There were the usual exhibits of

EXHIBIT AT THE NEW JERSEY STATE FAIR, SHOWING MR. C. H. ROOT'S OPEN AIR COLONY. MR. ROOT AT THE LEFT.

beautiful honey, and fine wax which looked good enough to eat. Mr. C. H. Root had on exhibition in a wire cage, a colony of live bees which established itself and built combs on the limb of a tree in the open air. Mr. Root discovered the colony early in the season, and reinforced the combs by inserting several long hat pins, also a roof was placed over the nest. Mr. Root carried the curiosity in his hand, the forty miles to Trenton by auto .A common exclamation was "Oh, see the bees making honey!" Many prizes were awarded for honey, wax, vinegar, cake and candy. The exhibits of honey, cake and candy were especially attractive. Lack of space prevents giving a full list of the awards. Mr. C. H. Root scored highest and secured the sweepstakes prize—6 radio bee-escapes. It was remarkable that there was almost no sale for comb honey, while the stock of extracted was several times exhausted. All honey was sold under an association label.

The Situation in West Virginia.—The disease situation in West Virginia is entirely under control as the result of work done by Chief Inspector C. A. Reese, of Charleston, and his assistants, the past summer, and plans are now under way for winter meetings and educational work to supplement the inspection.

Mr. Kennith Hawkins, of the U. S. Department of Agriculture has spent the past month in the State, in which time a survey of beekeeping conditions in ten counties has been made, nearly fifty beekeepers pledged to act as demonstrators in winter packing methods in co-operation with their county farm agents, and under present plans these men will continue next summer to act as demonstrators in better methods in beekeeping.

Vast stretches of tulip, basswood, sourwood and gums exist in the State, mostly in nearly inaccessible mountain regions, where over 90 per cent of the bees are in box hives. Reports of 100 pounds per colony from log gums were gotten from reliable sources, indicating what may be done in bee culture in West Virginia.

At a conference between Professor Reese and Mr. Hawkins some definite work was planned, and with the efficient organization and excellent State appropriation for the work there should be no difficulty in putting West Virginia decidedly on the beekeeping map.

Wisconsin Convention.—The Wisconsin State Beekeepers' Association will hold its annual convention at Madison, December 6 and 7. A full two days' program has been prepared, with assurance that every number will respond. Following is a partial list of subjects:

Address of welcome by Magnus Swanson, Federal Food Administration.

Response by N. E. France.

"The Foulbrood Situation and What It Demands"—Dr. E. W. Ball, State Entomologist.

"Bee Diseases"—N. E. France.

"My Experience with European Foulbrood"—Frank Kittinger.

"Honey Containers for 1918"—C. P. Dadant.

"Markets"—E. R. Root.

"Maintenance of Colonies from Close of Honey Flow to the Beginning of the Next Season"—Geo. S. Demuth.

"Substitute Honey for Sugar"—Mrs. R. E. Vaughan, of the U. W. Home Economics Department, with demonstrations.

"Comparisons Between Outdoor and Cellar Wintering"—Edw. Hassinger, Jr.

"Large Brood Chambers"—Harry Lathrop.

"The Importance of Wisconsin's Apiary Industry, as Viewed by the Wisconsin Department of Agriculture"—C. P. Norgord, Commissioner.

"Beekeepers' First Aid"—A. C. Allen.

"Beekeepers I Have Known"—H. H. Moe.

"Organization"—H. F. Wilson, of the Wisconsin Apiary Department.

Five-minute talks and discussions will be in the hands of A. C. Allen, of Portage.

We are also expecting representatives of the Extension Department of the Bureau of Entomology at Washington, D. C.

GUS DITTMER, Sec'y.

Topeka, Kansas Meeting. — The Northeast Kansas Beekeepers' Association will hold its annual meeting on December 7 and 8. Our State Horticultural meeting will be in session the 5th and 6th of December, making a double attraction for beekeepers and fruit growers. Kansas beekeepers are urged to attend.

A. D. HOCKENSMITH,
President.

Convention Notice of Ontario Beekeepers' Association.—The Executive Committee of the Ontario Beekeepers' Association has arranged to hold its annual convention at Hotel Carls-Rite, Toronto, on Tuesday, Wednesday and Thursday, December 11, 12, and 13, 1917. The following subjects and speakers have been arranged for:

Mr. B. F. Kindig, State Apiary Inspector of Mighigan, has consented to be present and speak on "Some Mistakes in Management in the Bee-Yard" and of "Retailing the Honey Crop."

Subjects discussed by Ontario members will be "Simple Methods of Rearing and Introducing Queens," by John Newton, Thamesford; "Mysterious Losses of Adult Bees," by James Armstrong, Selkirk; William Couse, Streetsville, and W. A. Chrysler, Chatham; "Out Apiaries," by E. T. Bainard, Lambeth; "The Farmer Beekeeper," by W. W. Webster, Little Britain; "Apiary Locations," by H. G. Sibbald, Toronto; "Wintering," by J. L. Byer, Markham, and "Beekeeping Appliances," by W. J. Craig, Brantford.

There will also be question drawers and general discussions as opportunity offers.

On one of the convention evenings the members will have dinner together at Hotel Carls-Rite, so that the social side of the convention may not be overlooked.

This is the annual gathering of the beekeepeers of Ontario. All are cordially invited, including those from across the line who can make it convenient to attend.

MORLEY PETTIT
Secretary-Treasurer.

Guelph, Ont.

Number of Bees Per Pound.—Fifteen hundred worker bees just dead from starvation (a small, queenless nucleus) were accurately weighed in lots of 500 before decomposition began. From each of these weighings the number of bees per pound was: (1) 6005 bees, (2) 5600 bees, (3) 5170 bees, averaging 5591 bees per pound. These bees had starved, so that there would be more bees per pound than if they had been alive with some honey in their sacs.

Moisture and Dry Tissue in Starved Bees.—Determinations of moisture

and dry tissue were made on 1500 starved bees, before decomposition began, in lots of 500. Moisture in these bees averaged 73.05 per cent of total weight. Total dry tissue in these bees averaged 26.95 per cent of total weight.

These two items of interest were done in co-operation with the Division of Agricultural Biochemistry, University of Minnesota.

L. V. FRANCE,
Instructor in Bee Culture.

Nov. 8, 1917.

(The weight of bees has been tested at different times. Bernard De Gelieu found them to number all the way from 3,640 to 5,460 in a pound. Collin, a very accurate observer of the middle nineteenth century, counted 5,100 bees "in normal condition" in a pound, but in the swarm he found less than 4,300 in a pound, because they were filled with honey. The A-B-C of Bee Culture calls 4,800 bees a pound, in round numbers. The above experiment brings a similar conclusion, since its result on "dead bees" is about 5,600 in a pound. Call 5,000 live bees a pound and you will not miss it far.—Editor.)

Illinois Meeting.—The Illinois meeting was well attended, but neither Dr. Phillips nor N. E. France were present. Young Mr. Erbaugh, now in the extension service, represented Dr. Phillips. The Association had the courtesy to extend honorary membership to Dr. C. C. Miller and the editors of the bee magazines. We extend our thanks for the favor. President E. J. Baxter having declined serving another year, the office of president was conferred upon Dr. A. C. Baxter, of Springfield. Although these men bear the same name, they are not in any way related. Dr. Baxter is a devoted worker and the Association cannot fail to flourish under his leadership.

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Markets

Semi-Monthly Market News Bulletin

Honey Arrivals for preceding Two weeks:

Keokuk, Iowa—400 pounds Iowa.

Hamilton, Ill.—2250 pounds Iowa, 4210 pounds Mississippi, 2500 pounds Wisconsin.

Medina, Ohio—300 pounds Illinois, 43,600 pounds Wisconsin, 48,686 pounds Michigan, 36,300 pounds Wyoming, 6348 pounds Ohio, 21,500 pounds Minnesota.

Telegraphic Reports From Today's Markets—Jobbing Prices

(In many markets in the honey trade the term "jobber" is commonly applied to the original receiver who buys direct from the grower in carlot quantities. However, in these reports we use the term "wholesale carlot receiver" to designate the carlot purchaser, while the term "Jobber" refers to the dealer who buys in less than carlot quantities from the carlot receiver and who sells direct to the retailers. The prices quoted in this report represent the prices at which the "wholesale carlot receivers" sell to the "jobbers.")

Note: Arrivals include receipts during preceding two weeks. Prices represent current quotations.

Cincinnati—No fresh carlot arrivals; 20 barrels Porto Rico, 17 cases Florida, 56 cases Alabama, 10 cases Wisconsin arrived; local receipts moderate. Demand and movement good, market very strong. Extracted honey: Domestic light amber, 15-17c; orange and white sage, 17c; Porto Rico dark amber, 15c per pound. Comb honey: Fancy white heavy, $4.75; No. 1 white heavy, $4.50 per 24-section case. Beeswax: Demand moderate, market steady; average yellow, 38-40c per pound.

St. Louis—No fresh carlot arrivals. Supplies light. Comb honey: Scarce, few sales; 24-section cases, fancy, $4.50-4.75; No. 1, $4.00-4.25; No. 2, $3.75--4.00. Extracted honey: Light amber in cans, 15c per pound; in barrels, 13-13½c; dark honey one-half to 1c lower. Beeswax: Supplies very light; small lots, 37½c per pound.

Kansas City—1 car California arrived; no cars on track; express approximately 100 cases Missouri comb and 7 cases Colorado extracted arrived. Demand and movement moderate, market firm. Comb honey: California cleaning up; quality good; 24-section flat cases, white, No. 1, $4.00; Colorados, quality and condition good, 24-section cases, white, fancy $4.50; No. 1, $4.25-4.40; No. 2, $4.10-4.15; Missouris, few sales; quality and condition good; 24-section cases, white, No. 1, small lots $4.50-5.00. Extracted honey: Colorados, quality and condition generally good; white and extra light amber, 16-16c per pound; dark 12-13c. Beeswax: Approximately 100 pounds arrived; supplies very light; demand limited, market steady; all sales in small lots, 35-40c per pound.

Chicago—No fresh carlot arrivals. Supplies very light. Demand moderate, market strong. Michigan, Wisconsin, Iowa and Minnesota: Comb, fancy clover and basswood, 22-23c per pound; other grades one-half cent lower; extracted, best mostly 15-15½c per pound. California extracted: Supplies very light; light amber 16-16½c per pound. Beeswax: No sales.

Philadelphia—1 car New York, 1 Wyoming, about 15 barrels Mexico and approximately 1000 cases nearby comb arrived. Demand good, market strong, few sales. Wyoming extracted: Light amber, 17c per pound; comb, no sales; Mexican: Extracted, 12-13c per pound. Beeswax: Receipts light, demand moderate, market strong, 36-38c per pound.

Denver—Receipts light; approximately 100 cases comb and 6000 lbs. extracted arrived. Demand exceeds supply; market firm. Comb honey: Colorado, white, quality and condition good, 24-section cases, No. 1, $4.05; No. 2, $3.50. Extracted honey: White to light amber, 14½-15c per pound. Beeswax: Receipts light; price paid producer, 34c per pound.

New York—16 barrels Santo Domingo, 213 barrels Porto Rico, 21 cases California arrived. Local and export demand good, market strong. Extracted: California, fancy, light best 15½-17½c; poorer, 13¾-15c per pound; West Indian, receipts moderate, $1.40-1.45 per gallon. Beeswax: 25 bags Porto Rico, 155 bags Santo Domingo arrived; demand good, market steady; dark, 32-33c per pound; yellow, 35-36c.

Minneapolis—No rail arrivals; local receipts very light. Supplies very light. Demand moderate, market very strong. Comb honey: Minnesota, Wisconsin, best white, 24-section cases mostly $4.25; Colorado, white, mostly $4.50 per case. Extracted honey: Colorado, white, in 330-pound casks, mostly 15½c per pound; in 60-pound cans, mostly 16c; 10-pound pails, 17½c per pound. Beeswax: No sales reported.

St. Paul—Receipts: 8 boxes Wisconsin comb, weighing 1965 pounds, 1 car Wisconsin comb, 1 car Wisconsin extracted, 5 cars extracted, and extremely light local receipts. Demand good; market very strong. Brisk inquiry on both extracted and comb. Comb honey: Wisconsin and Minnesota, best white, 24-section cases, mostly $4.50. Extracted honey: White, in cans, 15c per pound; in 10-pound pails, mostly 16c. Beeswax: No sales reported.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

It is inferred that all readers have access to the book "A Thousand Answers to Beekeeping Questions." This will avoid duplication in answering, as the book contains answers to practically all questions ordinarily asked on beekeeping. Subjects not specifically treated, or which are not clear to the reader will be further explained in this department at the request of any subscriber.

Re-queening

I am an old American Bee Journal reader. I am now 81 years old, and my eyes are getting weak. Next summer I must re-queen my bees, though I fear about not finding the queens. Do you know of a way to find them? There are the queen-traps; would they work when I turn them around?. If I brush the bees into an empty hive today would they leave the queen there and go back to the old hive?

ANSWER.—Even though your eyes are weak, with a good pair of spectacles you ought to be able to see the queen. Use little smoke, move gently, and don't get the bees to running, for then the queen is likely to hide, and queens have a way of hiding that has always been a mystery to me. If you don't find the queen after looking over the combs two or three times, better wait an hour or more, or till next day. It ought to work all right to do as you suggest,

reverse a queen-trap at the entrance, or brush the bees into an empty hive-body placed over the hive, with an excluder between the two stories. Of course in the latter case, before putting the excluder over the hive you would take out all the frames, carefully brush the bees from one frame upon the other frames, and put back into the hive this frame with no bees. Then you would put on the excluder and the second story. When you have brushed the bees from all of the combs into this upper story, you can hasten the downward journey of the bees by using a little smoke. Of course, when the bees have all gone into the lower story the queen will be left on the excluder.

Bees on Shares—Advertising

1. Could I run bees on shares, and how should the terms be?
2. Would it be a good plan to buy bees with a year or more of time to pay for them?
3. Do you think it profitable to rent bees or not?
4. Could I get what I wanted by advertising?
5. With ten Hoffman frames half full, or nearly so, about how many pounds of honey would there be in a hive?

ANWSERS.—1. In a good many cases bees are run on shares, sometimes satisfactorily and sometimes not. There is no fixed rule as to terms, but it is quite important that there be a definite agreement in advance, and that it be made in writing. Otherwise there is danger of misunderstanding and hard feelings. Generally one party furnishes location, bees, hives, and tools, and pays for half the supplies, and half of any sugar fed, and the honey is divided equally.

2. I think bees have been bought in that way, and whether it would be a good thing for you depends on whether you are an efficient beekeeper in a good location.

3. Sometimes, and sometimes not.

4. Most likely.

5. Somewhere in the neighborhood of forty pounds.

Building Up With Nuclei

I have at present twenty-five colonies of bees in 10-frame dovetailed hives, all of them in strong condition, both as to bees and stores. All have 1917 queens, 3-banded Italians. I would like to have as many colonies as possible next summer—not just colonies, but good strong ones that could store a fair surplus, say fifty pounds. I have been figuring that I would buy ten 1-lb packages of bees, to arrive about April 15, and these I would use where needed in order to bolster up any weak colony; then get fifty more pound packages with queens, to arrive about May 10. I would then use my 25 colonies to help those pound packages build up into strong colonies for the beginning of the white clover flow which begins here about June 25 or July 1. After white clover comes basswood about July 15.; alfalfa also yields good by that time Then comes sweet clover, buckwheat and the fall flowers. Last spring I had ten colonies and sent for ten 1-lb. packages with queens. I ordered them to arrive May 10, but it was May 28 when I received them. I also made the sorry mistake of sending for 10-lb. packages without queens, and those did not arrive until June 5. I then had 20 package to get in shape in a month's time, and ten of them without queens.

I used my ten strong colonies for helping those queenless nuclei, but after a while I saw I could not make it, so I turned my attention to the other ten nuclei and got them in pretty good shape (they averaged about 75 pounds surplus each). Of course, I should have united the queenless pound packages with the others as soon as they arrived, but I was too selfish for that. I wanted *all*, and figured I could raise my own queens for them. I gave that up, however, and I finally dumped those ten queenless nuclei together and made three colonies out of those ten.

Do you think I can get those 50 nuclei strong enough by the 1st of July? If so, how would you advise me to go at it?

This is my second year with bees, started last year with two swarms in July increased to five same season, then bought five colonies early last spring, making ten colonies in April, 1917.

Please tell me when you think I should get the pound packages for best results (last spring I took the bees out of the cellar on April 5). I do not care if I have to feed a good deal, and will have plenty of time to look after them well, just so I know how to go at it in the right way. NORTH DAKOTA.

ANSWER.—To start May 10 with fifty 1-pound nuclei, with the aid of twenty-five colonies, building them up into strong colonies by June 25 or July 1 is something of a feat. You may do it, but there's a fine lot of chances that you will not. Of course, the season will make a difference. But you can at least bring part of them up, and your policy will be to strengthen only part at first, and continue aiding others afterward. Then you will be all right, whether you bring up the whole fifty or not. In drawing brood and bees from the strong colonies make it a fixed rule that in no case will you draw enough to reduce a colony to less than four brood. Don't give one brood apiece to each of the fifty nuclei at the start, but bring up as many as you can to the strength of four or five brood, then later bring up others, and so on.

For best results it will hardly be advisable to begin before bees can forage and fly well daily.

Colony Disappearing

The strongest colony I own was all right during the season and at the close of the honey-flow in September I looked through it to see how things were. To my surprise, I found there was not a bee left nor the least bit of honey in the frames. The colony next to this one came through all right. Why would the bees fly away? They had as much chance to gather supplies as the rest. NEW YORK.

ANSWER.—A fair guess would be that the colony became queenless and dwindled down, perhaps being robbed.

Miscellaneous

1. On page 137 of Thousand Answers, nucleus plan of increase, do you have to cage the queen when putting her with the two frames of brood back on the old stand?
2. Will it be safe to leave comb-foundation in wired frames where it will freeze?
3. Please explain how you make your bottom-rack that fits in the bottom-board, and what kind of entrance-block do you use?
4. In using a flat top, the kind you use, do the bees fasten it down tight, and how do you remove it without jarring the bees?
5. How do the Dadants manage to keep the queen from laying in the supers without using an excluder? MISSOURI.

ANSWERS.—1. No.

2. I don't know any too certainly. I think it would generally be safe, but with very hard freezing it is possible there might be some loosening of the wires from the foundation. Who has had experience in this matter?

3. The bottom-rack is in the form of a ladder, the cross-pieces or rungs being nailed upon the two parallel pieces, with a space of half an inch or less between each two rungs. The entrance-block is more properly an entrance-board, for it is a thin board large enough to cover the entire entrance and project upward upon the front of the hive, where it is fastened by two small nails partly driven in. At one of the lower corners of the little board is a hole about an inch square.

4. Yes, the bees glue it shut. Opening it, however, causes no jar unless the weather is very cold, and at such times hives are not too often opened.

5. Their deep and large frames give so much room for the queen that there is little desire to go elsewhere, and if a queen should happen to go above, she is likely to say, "Why, these upper frames are so shallow I don't like them; guess I'll go back." So there's little "managing" to be done, but if there is the Dadants can speak for themselves.

Bees By the Pound

1. If you were going to order bees by the pound next spring and you were sure of a cold April and May, would you order them delivered early and feed them, or have them delivered about the 1st of June and chance getting any surplus?
2. Could I put sugar syrup in drawn comb to feed them on, or would I have to use a feeder?
3. Would a 3-pound colony in a good season need supers if delivered the 1st of June?

ANSWERS.—1. Under the circumstances mentioned, I think I would wait till the later time.

2. Either way; but if the season is good they hardly ought to need feeding.

3. Yes, very likely.

Classified Department

Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.

BEES AND QUEENS

PHELPS' Golden Italian Queens will please you.

BEES AND QUEENS from my New Jersey apiary.
J. H. M. Cook,
1Atf 84 Cortland St., New York City.

TESTED leather-colored queens, $2.00; after June 1, $1.50; untested, $1.00; $10 per doz.
A. W. Yates, 3 Chapman St., Hartford, Conn.

PHELPS' Golden Italian Bees are hustlers.

VIGOROUS, prolific Italian Queens, $1.00; 6, $5.00, June 1st. My circular gives best methods of introduction. A. V. Small,
2303 Agency Road, St. Joseph, Mo.

THREE-BANDED ITALIANS—One, 75c; 6, $4.00; 12, $7.50. Tested, 1, $1.00; 6, $5.70; 12, $10.75
Cotton Belt Apiaries, Box 88, Roxton, Tex.

GOLDEN QUEENS that produce Golden workers of the brightest kind. I will challenge the world on my Goldens and their honey-getting qualities. Price, $1 each; tested, $2; breeders, $5 and $10.
2Atf J. B. Brockwell, Barnetts, Va.

PHELPS' Golden Italian Queens combine the qualities you want. They are great honey gatherers, beautiful and gentle. Mated, $1; 6, $5; tested, $3; breeders, $5 and $10.
C. W. Phelps & Son,
3 Wilcox St., Binghampton, N. Y.

MY BRIGHT ITALIAN QUEENS will be ready to ship after April 1 at 75c each. Send for price list. Safe arrival and satisfaction guaranteed. M. Bates, Greenville, Ala.

THREE-Banded and Golden Italian Queens and pound packages in spring, from the Sunny Southland. Grant Anderson,
Rio Hondo, Texas.

FOR SALE—1 to 100 strong 8-frame colonies extra fine strain Italian bees, $4 to $4.50 each; all free from disease, with stores for winter; Standard full-depth, self-spacing Hoffman frames; all straight combs in new one-story single-wall hives, f. o. b. here.
Wilmer Clarke, Earlville, Madison Co., N. Y.

HONEY AND BEESWAX

WANTED—Comb, extracted honey, and beeswax.
R. A. Burnett & Co.,
6A12t 173 S. Water St., Chicago, Ill.

WANTER—Beeswax at all times in any quantity, for cash or in exchange for supplies.
Dadant & Sons, Hamilton, Ill.

CHAS. ISRAEL BROS. CO., 486 Canal St., New York. Established 1878. We are in the market for both comb and extracted honey. Send prices delivered New York; state the quantities you have and how packed, and send samples.

FOR SALE—Michigan's best white extracted honey in packages as desired; also comb honey.
A. G. Woodman Co., Grand Rapids, Mich.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered.
The Fred W. Muth Co.,
204 Walnut St., Cincinnati, Ohio.

WANTED—Beeswax; we pay higher than market price for good grades light and light yellow wax; get our prices before disposing of your wax. Queen Mfg. Company,
Falconer, N. Y.

FOR SALE—12,000 lbs. white extracted clover and alfalfa honey in new 60-lb. cans, 15c per lb. f. o. b. Hardin, cash with order. Sample, 10c.
Custer Battlefield Apiaries, Hardin, Mont.

WANTED—White or light amber extracted honey in any quantity. Kindly send sample, tell how your honey is packed and your lowest cash price; also buy beeswax.
E. B. Rosa, Monroe, Wis.

BE sure and include the Domestic Beekeeper with your list of bee journals for 1918. The Domestic Beekeeper will help you to dispose of your crop of honey without expense to you; also, buy your beekeeper supplies for you at cost. If you knew all we were doing for our subscribers, you would certainly be with us during 1918 as a subscriber. Can we have the pleasure of entering your name on our subscription list? Address The Domestic Beekeeper, Northstar, Michigan.

FOR SALE—Clover, heartsease, No. 1 white comb, $4.25 per case; fancy, $4.50; extra fancy, $4.80; 24 Danz sections to case. Extracted, 120-lb. cases, 15c per lb.
W. A. Latshaw, Carlisle, Ind.

WANTED—To buy, a quantity of dark and amber honey for baking purposes.
A. G. Woodman Co., Grand Rapids, Mich.

SUPPLIES

SIBERIAN FUR FARM, Hamilton, Canada, breeds foxes, marten, mink, ermine, skunks and black Siberian hares. Information and price list free. Write address plainly.

FOR SALE—Cedar or pine dovetailed hives, also full line of supplies, including Dadant's foundation. Write for satalog.
A. E. Burdick, Sunnyside, Wash.

FOR SALE—100 second-hand 5-gal. honey cans; in good condition.
John Kneser, Hales Corners, Wis.

YOU have likely been thinking for some time that you would like to have The Domestic Beekeeper come to you regularly each month, but have been putting it off for some reason or other We would like very much to have you all start in with us this next year. We are very sure you will not regret it if you make this start. To some of the early December subscribers for 1918, we will send, free, the last three numbers of 1917. If you expect to get in on this back number proposition you will need to be prompt in ordering, as those back numbers are going fast and there will be none when the present supply is exhausted. Address, with remittance, The Domestic Beekeeper, Northstar, Michigan.

FOR SALE—500 Extracting Supers, nailed and painted, with frames; will sell cheap.
A. F. Stauffer, Delta, Colo.

FOR SALE—300 comb-honey supers, mostly filled with sections and foundation starters, full-sheet or bait sections; two Daisy foundation fasteners. About 1000 section holders, and fencing. A bargain. Send me your order.
C. E. Keister, Clarno, Wis.

$30,000 WORTH OF BEE SUPPLIES, all boxed, ready to ship at once; 275,000 broodframes, also shallow of all kinds 100 and 200 in a box; some bargains. Send me a list of what you want. I can save you money. Catalog free. Chas. Mondeng,
146 Newton Ave., N., Minneapolis, Minn.

BERMUDA GRASS SEED direct from grower 30c lb. Peruvian alfalfa, the variety that grows during the winter, 20c.
B. O. Hadley, P. O. Box 471, Yuma, Ariz.

HONEY LABELS

HONEY LABELS—We have just issued a new and up-to-date catalog of honey labels and stationery. Write for your copy. Neat labels and quick delivery guaranteed.
American Bee Journal, Hamilton, Ill.

SEND today for samples of honey labels.
Liberty Pub. Co., Sta. D, Bx 4H, Cleveland, O.

WANTED

WANTED—Your old combs, cappings or slumgum to render into beeswax by our high steam pressure wax presses.
Dadant & Sons, Hamilton, Ill.

$1.50 pays for a year's subscription each to The Domestic Beekeeper and the American Bee Journal. You can order them from either office, as you prefer.

WANTED—Man to live on farm and take care of bees. Must have experience and furnish reference. Will furnish house and garden. State wages expected. Address,
E. R. Stewart, New Castle, Colo

IT will be the same to us whether you remit for The Domestic Beekeeper direct to Northstar, Michigan, or whether you send it in with your subscription to the American Bee Journal; only, be sure and include it, as we want every American Bee Journal subscriber to become a Domestic Beekeeper subscriber.

Index to Vol. LVII

SUBJECTS

ILLUSTRATIONS

CORRESPONDENTS

Crop Reports and Market Conditions

For our December issue we asked the following questions of reporters:

1. How are bees going into quarters?
2. Has the price and scarcity of sugar caused any bees to go into winter short?
3. How does the honey flora look? What is its condition compared to a year ago?
4. How much honey do you know of still in the hands of producers, and what price are they holding for?
5. What is the demand for honey locally?
6. What are the large buyers offering for extracted honey?
7. How much comb honey is left on hand?

CONDITION OF BEES

Bees seem to be going into winter in good shape in the whole northeast section of the country. They are normal as to young bees, possibly a little short on stores, which will require close attention by the beekeeper when the bees come out in spring. In the whole of the South except Texas, bees are in fine shape and have sufficient stores.

In Texas conditions have not improved generally, though some localities have had a fair fall flow, putting the bees in good shape in young bees and honey. In other sections bees are still starving, and it is certain that the losses will be heavy, especially among those who do not carefully feed.

The Mississippi valley reports bees in fair shape. Some sections have had a good fall flow, while others have had to feed to insure plenty of stores.

In the Missouri valley the condition is parallel.

Colorado, Montana, Idaho and other inter-mountain States report bees in fine shape. New Mexico reports them as fair.

In California bees will go into winter in good shape generally. They have had to be fed in some localities. In a few others a short fall flow has left some colonies short in young bees.

SUGAR AND STORES

Taken generally, bees are likely shorter of stores the country over than they have been for two or three years. Most up-to-date beekeepers have fed where needed.

Luckily, the extreme shortage of sugar did not come until the feeding period was over, so that it was possible to get all the sugar needed if the price was paid for it.

PLANT CONDITIONS

The South is much encouraged over conditions of plants for the year, being ahead of those of a year ago. In the East conditions are much more favorable than a year ago, though some rain is needed to put clover out of drouth danger.

The same condition applies in the Mississippi Valley, especially in Ohio, Indiana, Illinois, Iowa generally, Missouri, Kansas and Nebraska.

In Michigan, Wisconsin and Minnesota plant conditions were so favorable a year ago that it is doubtful if they are better this year. More rain is needed.

In other sections plant conditions cannot be accurately judged until the next season opens.

HONEY ON HAND

Very limited quantities of honey, relatively, are in the hands of producers, probably not more than five per cent or less the country over. Most local salesmen are either cleaned of honey or selling out rapidly. What is still left is commanding generally a price of 15 cents f. o. b. for extracted and $4.00 f. o. b. for comb.

Following is a list of some of the honey still unsold at the time this was written, and the prices asked:

One-half car white Idaho extracted, 13½ to 16 cents.
3,000 pounds amber California extracted at 14 cents.
6,000 pounds California amber extracted at 13 cents.
8,000 pounds Montana white extracted at 16 cents.
200 cases Montana comb at $4.00.
10,000 pounds Montana extracted white at 15 cents.
30,000 pounds Montana white extracted at 16 cents.
40 cases Colorado comb at $4.50.
800 cases Colorado comb; price not named.
20,000 pounds Colorado white extracted at 16 cents
40,000 pounds Colorado white extracted at 15 cents

LOCAL DEMAND

In almost all localities the local demand exceeds the supply of honey, so that all stocks are fast being cleaned up.

OFFERS

In a majority of cases large buyers are offering under 15 cents for extracted honey. There is no doubt, however, that the acute shortage of sugar in many localities is going to make honey of even more ready sale Some few beekeepers report the sale of large lots of honey as high as 16 cents for extracted.

COMB HONEY

Probably in recent years there has not been such a shortage in comb honey. The only large lot mentioned in reports is the lot of 800 cases in Colorado, and this was not reported directly by the beekeeper.

SUMMARY

Probably in no year before has there been such a range in the price received wholesale by the beekeeper for his honey. Some demanded 15 cents for extracted white and got it. Others contracted ahead, some as low as 8 cents for the best extracted.

Even after markets materially advanced, many beekeepers did not keep themselves informed as to conditions and accepted relatively lower prices.

One organization in the West got around 15 cents for all extracted honey sold for members and a corresponding price for comb.

HONEY AND BEESWAX

CHICAGO, November 17.—The movement in honey of all kinds ha been quite free during the past month, especially in extracted, for which there has been an active foreign demand, and as high as 16½c per pound has been paid, which has stiffened the market up so that for the best grades of white clover and similar goods 17c per lb. is obtained. Ambers sell at from 1c to 3c per lb. less, according to flavor and quality. White comb, A1 to fancy, brings 22c to 23c per section. Amber grades range from 1c to 3c less. Beeswax is steady at 35c to 37c per lb.

R. A. BURNETT & Co.

NEW YORK, November 16.—The market on honey is in such an irregular condition that we do not feel justified in quoting any prices, as they change from day to day.

HILLDRETH & SEGELKEN.

KANSAS CITY, November 15.—In regard to the honey market, will say that the supply of comb honey on the Kansas City market is very light, lighter than last year at this time by a big per cent. The fact of the matter is that none of the dealers have anything but a very light supply on hand, and we are entirely cleaned up for the present. No. 1 comb honey would job at about $4.50. The market on extracted is in good shape, with only a moderate supply on hand, the very best selling at around 15 cents.

While some of the smaller beekeepers may be holding their honey, there is no large amount being held that we know of.

C. C. CLEMONS PRODUCE CO.

DENVER, November 16.—Our present prices to retailers are as follows: Extra fancy white comb honey, $5.00; No. 1 white comb honey, $4.50; No. 2 comb honey, $4.00. Extracted white honey, according to quantity, 16-18c; light amber, 14-15c. For clean yellow beeswax, delivered here, we are paying 38c in cash and 40c in trade.

THE COLORADO HONEY PRODUCERS' ASSN.

Statement of the Ownership, Management, Circulation, Etc.

of AMERICAN BEE JOURNAL, published Monthly at Hamilton, Ill., for October 1, 1917.

STATE OF ILLINOIS, County of Hancock. ss.

Before me, a Notary public in and for the State and County aforesaid, personally appeared M. G Dadant, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the American Bee Journal, and that the following is, to the best of his knowledge and belief, a true statement (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown above in the caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws d Regulations,.

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher—American Bee Journal, Hamilton, Illinois.
Editor—C. P Dadant, Hamilton, Illinois.
Managing Editor—None.
Business Manager—M. G. Dadant, Hamilton, Illinois.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give the name and names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock).

C. P. Dadant, Hamilton, Ill.
L. C. Dadant, Hamilton, Ill.
H. C. Dadant, Hamilton, Ill.
M. G. Dadant, Hamilton, Ill.
V. M. Dadant, Hamilton, Ill.
Jos. Saugier, Jr., Hamilton, Ill.
Leon Saugier, Hamilton, Ill.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are (If there are none, so state):

None.

That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also in cases where the stockholder or any security holder appears upon the books of the company as trustee or in any other fiduciary relation, the names of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest, direct or indirect, in the said stock, bonds, or other securities than as so stated by him.

(Signed) M. G. DADANT, Business Manager.

Sworn to and subscribed before me this third day of October, 1917.

(Seal) T. R. KLAY.

ALWAYS MAKE SURE THAT THIS TRADE-MARK IS STAMPED ON EACH PIECE OF

"Tide-water" Cypress

"THE WOOD ETERNAL"

THEN YOU BUY SAFETY (AND SATISFACTION) FIRST, LAST AND 'TWEEN TIMES

"ALL-HEART" GRADE FOR BEEKEEPERS' USE

Southern Cypress Manufacturers Association

ADDRESS NEAREST OFFICE

1230 Hibernia Bank Building
NEW ORLEANS, LA.

1230 Heard Nat'l Bank Building
JACKSONVILLE, FLA.

"When we receive your Honey
Return mail brings your Money"

The Fred W. Muth Co.

GET SERVICE LIKE THIS MAN

LAKE CITY, MICH., MAY 5th, 1917.

FRIEND MUTH:—Your letter with check for $146.20 for wax has been received. Thanks. I do believe you beat them all when it comes to quick returns for goods shipped you. I may have some more wax to sell after we get our cappings melted.

Yours truly, [SIGNED] ELMER HUTCHINSON.

We Want Immediately! Extracted Honey

We buy all grades of Extracted Honey. Large or small lots. Send sample and price. If price is right, we will buy. Partie who have Fancy and Number One Comb Honey write us at once. We will buy from 40 to 50 carloads this season.

BEESWAX

Send us your Beeswax. We pay highest market prices, and send you our check the same day shipment is received.

OLD COMBS

Make some spare money from the wax rendered from your old comb. We will render it, charging only 5 cents per pound for rendering, and pay you best market prices for the wax rendered.

Shipping Cases for Comb Honey

We are prepared to ship you the same day order is received any number of shipping cases. Several carloads are here now ready for buyers. Send your order in now before our supply is exhausted. We sell Lewis Beeware.

REMEMBER We remit the same day your shipment arrives. Read the letter above and be convinced that this is the house to send your shipments to. Try us.

THE FRED W. MUTH CO.

"The house the bees built"

204 Walnut St., Cincinnati, Ohio